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# WAS IT WET OR FINE?

Being an Account of English Weather

from

Chronicles, Diaries and Registers

by

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Author of

"The Manors and Advowson of Great Rollright",

"Thornton-le-dale"

"The Industries of Oxfordshire" (V.C.H. Oxon. II).

etc.

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# DEDICATION

To

My Daughter

Honor

to whom I am indebted

in many more ways than I can record.

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| | |
|---|---|
| A.B. | Arthur Bryant, 'King Charles II'. |
| A. de la P.D. | A. de la Prymme's Diary, Sur. Soc. |
| A.E.D. | Adam Eyn's Diary, Sur. Soc. |
| A.F.P. | A.F. Pollard, Political History of England, Longmans, vol. VI. |
| A.H. IV. | Annales Henrici Quarti, Rolls Series. |
| A.M. Ber. | Annales Monastici, Bermondsey, Rolls Series. |
| A.M. Dunst. | Annales Monastici, Dunstaple, Rolls Series. |
| A.M.L. | Adam Martindale's Life, Ch. Soc. |
| A.M. Marg. | Annales Monastici, Margan Rolls Series. |
| A.M. Os. | Annales Monastici, Oseney, Rolls Series. |
| A.M. Tewk. | Annales Monastici, Tewkesbury, Rolls Series. |
| A.M.W.S. | A.M.W. Stirling, The Hothams, 2 vols. |
| A.M. Wav. | Annales Monastici, Waverley, Rolls Series. |
| A.M. Wig. | Annales Monastici, Worcester, Rolls Series. |
| A.M. Win. | Annales Monastici, Winchester, Rolls Series. |
| A.N. | Arthur Norway, Highways and Byways in Devon and Cornwall. |
| A.R. | Annual Register. |
| A.R. II. | Annales Ricardi Secundi, Rolls Series. |
| A.S.C. | Anglo-Saxon Chronicle, Rolls Series. |
| A.W. | Life and Times of Anthony Wood. O.H.S. |
| A.W.D. | Adam Williamson's Diary, C.S. |
| B.L. | Beatrice Lees, Alfred the Great. |
| B.N.C. | Brasenose College, Oxford. |
| C.C.B.St.A. | Rev. C.C. Brookes, History of Steeple Aston. |

| | |
|---|---|
| C.F.T.D. | C.F. Tetley's Diary. |
| C.G.H. | Charles G. Harper, Road Books, various. |
| C.L.C.S. | Chambelain's Letters, C.S. |
| C.L.K. | C.L. Kingsford, English Historical Literature in the Fifteenth Century. C.P. |
| C.M.P. | C.M. Pitman, The Record of the University Boat Race. |
| C.N.W.Y. | H. Speight, The Craven and North West Yorkshire Highlands. |
| C.P. | Clarendon Press, Oxford. |
| C.S. | Camden Society. |
| C.W.T.C. | Civil War Tracts of Cheshire. Ch. Soc. |
| C.W.T.L. | Civil War Tracts of Lancashire. Ch. Soc. |
| Ch. Soc. | Chetham Society. |
| D. of D. | Diaries of a Duchess [Elizabeth, Duchess of Northumberland, 1716-76]. |
| D.H.M.R. | D.H. Montray Read, Highways and Byways of Hampshire. |
| D.N.B. | Dictionary of National Biography. |
| D.T. | Daily Telegraph. |
| Dr.J.D.D. | Dr. John Dee's Diary. C.S. |
| E.J. | E. Jervoise, Ancient Bridges of the North. |
| E.M.H.L. | E. Marjoribanks, Life of Sir Edward Marshall Hall. |
| E.P. | Edward Parsons, History of Leeds and Adjoining Tours. |
| E.V.L. | E. V. Lucas, Highways and Byways of Sussex. |
| E.W. | E. Walford, Edgehill. |
| F.D. | The Farington Diary. |
| F.G.P. | F.G. Parsons, the Earlier Inhabitants of London. |
| F.N.L. | Fugger News Letters, Second Series. |
| F.P. | Farington Papers, Ch. Soc. |
| F.P.W. | F.P. Wilson, The Plague in Shakespeare's London. C.P. |

| | |
|---|---|
| F.Y. in M.P. | Rev. Canon Atkinson, Forty Years in a Moorland Parish. |
| F.Y.P. | Oliver Elton, Frederick York Powell. |
| G.B.A. | G.B. Adams, Political History of England, Longmans, vol. II. |
| G.F.L.C. | Grey Friars London Chronicle. |
| G.H. | Gordon Home, London Bridge. |
| G.M. | Gentleman's Magazine. |
| G.V.C. | G.V. Cox, Recollections of Oxford. |
| G.W. | Rev. Gilbert White, Natural History of Selborne. |
| H.C.M.L. | H.C. Maxwell Lyte, History of the University of Oxford. |
| H.D.D. | Haydn's Dictionary of Dates. |
| H.E.D.B. | Hone, Everyday Book. |
| H.F.J. | Henry Fielding's Journal. |
| H. and G. | Hunter and Gatty, Hallamshire. |
| H.H.C. | Henry of Huntingdon's Chronicle. |
| H.L.G. | H.L.G. The Romance of the Yorkshire Coast. |
| H.N.A. | Henry Newcome's Autobiography, Ch. Soc. |
| H.N.D. | Henry Newcome's Diary, Ch. Soc. |
| H.S. | H. Schroeder, Annals of Yorkshire. |
| H. of S. | A. Rowntree, The History of Scarborough. |
| H.W.J. | Horace Walpole's Journal. |
| H.W.L. | Horace Walpole's Letters. |
| H.Y.B. | Hone, Year Book. |
| J.B.R. | Remains of John Byron, Ch. Soc. |
| J.E.D. | John Evelyn's Diary. |
| J.F. | John Foxe, Book of Martyrs. |
| J.J.M. | Historical Handbook and Guide to Oxford, 1878. |
| J.L.G.A. | Joseph Lister's 'Genuine Account'. |

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|---|---|
| J.M.H. | John Murray, Handbook of Devon and Cornwall. |
| J.N. | John Nichols, Illustrations of the Literary History of the Eighteenth Century. |
| J.R.D. | John Rous' Diary. C.S. |
| J.S.J.S. | Jonathan Swift, Journal to Stella. |
| J.W.D. and C. | Dr. John Worthington's Diary and Correspondence, Ch. Soc. |
| J.W.G. | J.W. Gregory, The Story of the Road. |
| J.W.J. | John Wesley's Journal. |
| K.I. | The Kingdom's Intelligencer, Feb. 24. 1661/2. |
| L.G.L.C. | Local Gleanings of Lancashire and Cheshire. |
| L. in W.P. | Lady Charlotte Bury, Diary of a Lady in Waiting. |
| L.M. | Ludlow's Memoirs, edited by Sir Charles Firth. |
| M.F.H. of O. | Meade Falhener, History of Oxfordshire. |
| M.H.D. | Diary of Lady Margaret Hoby. |
| M.P. | Matthew Paris, Greater Chronicle, Rolls Series. |
| M.T.E. of A. | Memoirs of Thomas, Earl of Ailesbury. |
| M. of W. | Matthew of Westminster, Chronicle. |
| N.A.J. | Nicholas Asheton's Journal, Ch. Soc. |
| N.B.Rev.T.J. | Note Book of the Rev. Thomas Jolly, Ch. Soc. |
| N.P. | The Norris Papers, Ch. Soc. |
| N.W. and P.S.C. | Nathan Walworth and Peter Seddon Correspondence, Ch. Soc. |
| O. and B. | Owen and Blakeway, History of Shrewsbury. |
| O.C.L. | Oliver Cromwell's Letters. |
| O.H.S. | Oxford Historical Society. |
| O.T. | Oxford Times. |
| P.A.G. | P.A. Graham, Highways and Byways in Northumberland. |

| | |
|---|---|
| P.G. | Philip Gibbs, The Romance of George Villiers, First Duke of Buckingham. |
| R.B.L. | Robert Browning, Letters. |
| R. de D.C. | Ralph de Dicets, Chronicle. |
| R. de G. | Robert of Gloucester, Verse Chronicle. |
| R.J.D. | Ralph Josselin's Diary, C.S. |
| R.S.D. | Richard Symond's Diary, C.S. |
| R.W.J. | The author. |
| Rev. H.B. | Rev. Herbert Barnett, Glympton, The History of an Oxfordshire Manor. |
| Rev. H.W.H.G. | Rev. Herbert, W.H. Green. Letter in The Times, 1931. |
| Rev. J.J. | Rev. J. Jordan, History of Enstone. |
| Rev. R.D.J. | Rev. Rowland Davies, Journal. |
| S.P.D. | Samuel Pepy's Diary. |
| T.B.J. | Thomas Brockbank's Journal. |
| T.F.M. | Thomas, Lord Fairfax's Memorial. |
| T.H.D. | Thomas Hearne's Diary, O.H.S. |
| T. and K. | Charles Simpson, R.I., Trencher and Kennel. |
| T.M.D. | Thomas Marshall's Diary. Sussex Arch. Collection. |
| T.P. | Trevelyan Papers, C.S. |
| T.T. | Tudor Tracts, edited by A.F. Pollard. |
| V.L. | Verney Letters of the Eighteenth Century, edited by Lady M. Verney. |
| V.M. | Verney Memoirs. |
| V.P. | Verney Papers. |
| W.A. | Waltham Annals. |
| W.A.S. | Rev. Canon W.A. Shuffrey, Craven Worthies. |
| W.C. | Wriothesley's Chronicle, C.S. |

| | |
|---|---|
| W.D.D. | William Dyott's Diary, 1781-1845, edited by R.W. Jeffery. |
| W.H.R.C. | W.H.R. Curtler, History of Agriculture. |
| W. of M.C. | William of Malmesbury's Chronicle. |
| W. of R. | William of Rishanger's Chronicle. |
| W.M. | W. Money, History of Newbury. |
| W.P. | William Poitiers' Chronicle. |
| W.S.D. | William Stuckeley's Diary. |
| W.Y.D. | Walter Yonge's Diary, C.S. |
| Y.A.S.J. | Yorkshire Archaeological Society's Journal. |
| Y.P. | Yorkshire Post. |
| Baker's C. | Baker's Chronicle. |
| Baker S. and P. | Baker's Seasons and Prices. |
| Blomefield | Francis Blomefield, History of Norfolk. |
| Bod. Lib. | Bodleian Library, Oxford. |
| Bradwell S. | S. Bradwell, A Watchman for the Past. |
| Brit. C. | British Chronicle. |
| Cal. Dom. | Caldendar of State Papers, ~~Doncaster~~. Domestic |
| Cal.S.P.Ven. | Caldendar of State Papers, Venetian. |
| Capgrave C. | John Capgrave's Chronicle. |
| Capgrave H. | John Capgrave's Book of the Illustrious Hennes, Rolls Series. |
| Cobley | Fred Cobley, On Foot through Wharfedale. |
| Collinson | Collinson's History of Somersetshire. |
| Court and T.J.I. | Court and Times of James I. |
| Court and T.C.I. | Court and Times of Charles I. |
| Cox | Rev. J. Charles Cox, The Parish Registers of England. |
| Creighton | Dr. Creighton, History of Epidemics. |

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|---|---|
| Drake | Francis Drake, F.R.S., Eboracrun. |
| Enc. Brit. | Encyclopaedia Britannica. |
| Eng. C. | English Chronicle. |
| Eul. H. | Eulogium Historiarum. |
| Fabyan C. | Fabyan's Chronicle. |
| Froude | A. Froude, History of England. |
| Fuller | T. Fuller, Mixt contemplations on these Times. |
| Green | Green, History of Worcester. |
| Hall | J. Hall, History of Nantwich. |
| Harl. Mis. | Harleian Miscellany. |
| Harrod | W. Harrod, Antiquities of Stamford. |
| Heywood, Th. | Thomas Heywood, A Funeral Elegie. |
| Hinderwell | Thomas Hinderwell, History of Scarborough. |
| Hist.MSS.Com. | Historical Manuscripts Commission. |
| Hodges | Nathaniel Hodges, Loimologia. |
| Holinshed C. | Raphael Holinshed, The Chronicle. |
| Inq. P.M. | Inquisitiones Post Mortem. |
| Jenks | Edward Jenks, Edward Plantagent. |
| Kennett | Dr. Kennett, Register and Chronicle. |
| Lodge | Sir Richard Lodge, Political History of England, Longmans, vol. VIII. |
| Lord V. | Lord Vivian, a Memoir. |
| Machyn D. | Machyn's Diary. C.S. |
| Maitland | William Maitland, History of London. |
| Marsden | Marsden, Law and Custom of the Sea. |
| Morton | John Morton, History of Northamptonshire. |
| Nature | Nature, a scientific Journal. |

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|---|---|
| Oman | Sir Charles Oman, Warwick. |
| Pat. R. | Palent Rolls. |
| Parlims | Parlims, Freebridge Hundred. |
| Phil. Trans. | Philosophical Transactions. |
| Plot. N.H.D. | Dr. Robert Plot, The Natural History of Oxfordshire. |
| Reg. | Church Register [of various parishes]. |
| Rugge's D. | Rugge's Diureral. |
| Sir C.F. | Sir Charles Firth, Marsden Moor. |
| Sir E.P. | Sir Edward Parry, Queen Caroline. |
| Sir J.L. | Sir John Luthell's Diary. |
| Sir H.C. | Sir Hugh Cholmley's Memoirs. |
| Sir J.R.F.of E. | Sir James Ramsay, Foundations of England. |
| Sir J.R.L.& Y. | Sir James Ramsay, Lancaster and York. |
| Sir W.C.D. | Sir W. Calverley's Diary, Sur. Soc. |
| Sir W.S. | Sir Walter Scott's Journal. |
| Stow | John Stow, Annales or a Generall Chronicle of England. |
| Sur. Soc. | Surtees Society. |
| Taylor | Taylor, The Peaceful Sommer. |
| Thornton | Thornton, History of London. |
| Treves | Sir Frederick Treves, Highways and Byways in Dorset. |
| Univ. Mag. | The Universal Magazine. |
| Visc. P.D. | Viscount Percival's Diary, Hist. MSS. Com. |
| Watson | William Watson, F.S.A., History of Wisbeck. |
| Whistlecroft | Whistlecroft, Rural Gleanings. |
| Wither | G. Wither, British Remembrances. |

# INTRODUCTION

I am in no sense a 'scientist'. In fact, let me say at the very beginning of things my ignorance of what is commonly called 'science' is profound. What seems many years ago now, I had my chance, and attended classes that were in many ways fascinating; but I was not destined for the Science Department, and though perhaps history was less 'up-to-date', I stuck to it.

Thousands of students of English History may know <u>every thing</u> that I have recorded here. I, personally, after a long career of reading and teaching, practically knew nothing of what Englishmen in the past thought about the weather. Suddenly I come to the conclusion that the modern scientific records of weather, wind and temperature, set out in long columns and composed of a mass of figures were of very little interest to me, and I was bold enough to imagine that there were others, like myself, attracted by the story of the weather, but not by these statistical columns. They conveyed to me nothing that was 'human'. I therefore set to work to find out what people thought of the English weather in the past. I wanted to find the human element, and so I went mainly, to the chroniclers and the diarists. Their statements might not be scientifically correct, but what I desired to know was whether what these men, at any particular time, meant by 'the hottest' or 'the coldest' or 'the wettest' and so on, were expressions of the truth to them. And as I have been to more than 200 sources, some very old and some quite modern, and I have looked into nearly 1000

volumes. I here offer my readers the arranged results of my researches, up to the year 1931, though, of course, I am not so foolish as to pretend that I have recorded every instance of unusual meteological phenomenon.

After all what more prolific source of conversation in English is there than our 'beastly' climate? And yet which one of us would willingly exchange its 'beastliness' for any other? As a leader writer once said 'Let sages, ancient or modern, living in more regular climates, frown if they will upon the pleasant, lubricating practice of talking about the weather; in England the weather is always an event, and therefore worthy to be talked about, not only when it changes every five minutes, but also - and still more - when it remains fine for several weeks.'[1] I have been asked, so often, during the period that I have been doing this work, this question. 'Well.' after all this grubbing into the weather of the past, do you think that our climate is changing or has changed? Where are the old snow storms?' My answer is that, viewed as a whole, the English climate during an historic period, say, from four hundred years before Christ to the present time, has always been 'beastly'; but it is our own dear familiar climate. In England, (is it a case of 'thank goodness'?), we never quite know where we are with regard to weather. Nor do our 'Weather Reports' make us,

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1. The Times, 4.8.32.

even now, absolutely certain. There is always the sporting chance, and what more do Englishmen want?

I cannot close this introduction without thanking Mr. W.N. Stocker, Senior Fellow of Brasenose College, for the loan of scientific works, (though, of course, they are not quite in my line), I have to thank, too, my assistant, in the Brasenose College Library, Mr. S.H. Smith, for the kind help he has given me in many ways and for the interest he has taken in the compiling of this book. At the same time I have received considerable encouragement from numerous friends who have helped me again and again, by the cheery enquiry 'How's the "weather" going?'

Reginald W. Jeffery.

Brasenose College,

Oxford.

August, 1933.

## CHAPTER I.

### Frost and Snow.

Blow, blow thou winter wind
Thou art not so unkind
As man's ingratitude
Thy tooth is not so keen
Because thou art not seen
Although thy breath be rude.

William Shakespeare.

Full knee-keep lies the winter snow
And the winter winds are wearily sighing.

Alfred Tennyson.

The records of severe winters do not go back further than the days of Offa of Mercia, and even these are very meagre.
760 It is said that a great frost[1] began in October, 760, and ex-
761 tended into the February of the next year,[2] but beyond this no details have been registered. Hardly any more can be said of
937 a winter, that must have been extreme, in 937. It evidently did not begin unusually early, from one account, not till 22 December; but it lasted for no fewer than 120 days, which would
938 carry it well into the middle of April, 938,[3] and it must have played a considerable part in retarding the warfare between Athelstan and the King of the Scots. What was far more important, to the long-suffering Anglo-Saxon ceorlandgebur, was, that a bad winter affected the crops. The out-put was poor enough in the best of seasons; but a winter which continued long and destroyed vegetation, proved a shattering blow and caused incredible starvation, misery and death. Such, indeed, was the
991 winter of 991;[4] so that the reign of Ethelred the Unready began with an agricultural disaster comparable with the military disasters of its close.

For eighty years there is no account of an outstanding
1070 period of frost and cold, until the middle of January, 1070, when William the Conqueror returned from the Tees to York by an

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1. A.S.C.

2. Brit. C.

3. Ibid.

4. H.S.

unaccustomed route across the Cleveland Hills, through Helmesley. The frost was intense, the heights were buried in snow. Many horses were lost, but William's spirit kept his men up to the mark, though their hearts must have failed them when one night the King and six followers lost their way and wandered about in the hills not knowing where to turn; but they won through to
1072/3 York in the end.[1] On 1 November, 1072, another bad season set in 'of a great frost and much ice', and lasted until April of the next year.[2] Four years later the same thing occurred again, and the monkish chroniclers record a period of frost and snow
1076/7 which started on 1 November, 1076, and ended in the middle of April.[3] This was, indeed, a historic winter, and is commonly
1077 known as 'the Canossa winter', as during its severity [January, 1077] the Emperor Henry IV, shivered for three days before the Castle of the Countess Matilda at the arrogant behest of Pope Gregory VII. Terrible as the time proved on the continent, it was equally rigorous in England, and the cold 'was exceeding memorable, both for sharpness and continuance.[4]'

The country suffered from every kind of tempest in the next
1106 thirty years; but it is not, until 25 January, 1106, that there is any reference to an astounding fall of snow.[5] This was followed
1110 in 1110, by a strong frost on 5 May, when the fruit trees 'were

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1. Sir J.R.F. of Eng.
2. A.M. Wig.
3. M.P. and A.M.Wav.
4. Harl. Misc.
5. A.M. Marg.

1115 sorely nipt'.[1] Five years later another long winter laid its spell upon the country. How long it lasted, is a little uncertain, but evidently for some months. One chronicler says eleven weeks,[2] and another limits it to nine.[3] The Anglo-Saxon Chronicle does not state any particular length of time, but the monkish annalist felt that it was one of those occasions 'that no man that then lived ever before remembered a severer; and through that there was an immense mortality of cattle.[4]'

Possibly time was mercifully granted for the restoration of the livestock, for it is not until the anarchic period of Stephen that the next historic frost is recorded. It must have been an early one, for the Thames was frozen at Oxford in
1142 December, 1142, some days before Christmas, and the snow lay deep on the ground. This was the Empress Matilda's opportunity when besieged, and seizing it, she and her three companions in white, were lowered from the Castle, and having crossed the river, slipped away over the snow-clad meadows and reached safety, at Abingdon.[5] A more severe winter than this, in that period 'when the Saints slept', is supposed to have begun on 10 December,
1149
1150 1149, and lasted until 19 February, 1150, during which the Thames at London was frozen over and crossed by men and horses,[6] and, no doubt, used by skaters on bones, as described by William

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1. A.S.C. and A.M. Wav.
2. A.M. Wig.
3. A.M. Win.
4. A.S.C.
5. Sir J.R. F. of Eng.
6. M.P.

FitzStephen a year or two later. This winter was almost ex-
1151 celled when a great snow fell on Christmas day, 1151, and re-
1152 mained on the ground until the thaw came on 2 February, 1152.[1]

It would be interesting to know details of the very heavy
1178 snow, which fell in the winter of 1178;[2] and also of the exact dates of its duration, but Matthew Paris leaves us nothing but the bare fact, and we have to imagine how the newly created Judges on Assize struggled round their circuits in the winter quarter. Nor is Matthew Paris much more enlightening on the
1205 long winter of 1205, which started on 12 January, and ended according to some writers, on 22 March;[3] but according to others on 11 April.[4] In fact there seems a very considerable variation in the chroniclers as to the length of what must have been a severe winter. One record says, 'nine weeks'[5], and another records as many as 'twenty'[6]. If the latter were true it would mean that the winter continued almost to the unseasonable frost of 24 June, which is recorded by one writer only.[7] At any rate it must have been an extremely cold year, as winter set in again
1206 on 21 December, and continued till 25 March, 1206.[8]

A few more details come to light concerning the winter of

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1. Ibid.
2. Ibid.
3. Stow.
4. M.P.
5. A.M. Ber.
6. A.M. Win.
7. A.M. Tewk.
8. A.M. Wig.

1210 1 January to 14 February, 1210. The records of Tewkesbury are poor,[1] and merely state the fact that there was a great frost between those dates; but the annals of Worcester,[2] expand the story, and tell how the River Severn was frozen for four miles beyond Gloucester, so that men and beasts crossed over, and that this state of affairs remained so until mid February; but that, four days after the thaw had once started, all the ice had melted, and, what was most remarkable, disappeared without harm.
1222 On the other hand, an isolated storm in 1222, seems to have done considerable damage, but once again the Chroniclers do not agree on the exact date of conclusion. One says 13 March,[3] and the other says April.[4] It would appear, however, than on one of these days, there was a very heavy fall of snow and a sharp frost for many trees are said to have been injured, 'so that the leaves did not appear that year in many places'[5]; and what was still more serious the fruit perished entirely.

1234 Again in 1234, Matthew Paris whets the appetite for information, but he is content to say that the snow lay on the ground still 2 February, and that it was 'a very intemperate season'.[6]
1241 Of 1241, he tells us just a little more, for he explains that after six months continued drought and heat, on 1 December, there was a tremendous change.[7] Snow fell in quantities, and it came

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1. A.M. Tewk.
2. A.M. Wig.
3. A.M. Ber.
4. A.M. Wav.
5. A.M. Ber.
6. M.P.
7. Ibid.

with 'intolerable cold', so much so, that most rivers were frozen, and in some places people were overcome by the snow.
1253 In 1253, the heavy snow that fell on 14 December, was accompanied by thunder,[1] and this probably foretold the long continued east and northwinds which lasted during the first three months of
1254 the next year, and which were so cutting that flowers and fruits were 'suffocated'.[2] Very similar weather conditions existed in
1258 February and March, 1258, when, in addition to the east winds, there were ice and snow and intolerable cold. The poor, we are told, suffered much; flocks were lost, and agriculture was at a complete standstill.[3]

1261 A very remarkable year was that of 1261. During this winter the Thames was frozen (in such a manner that not only men and children passed over it, but it became a highway for all sorts of carriages, and various diversions were exhibited'.[4] Seven years, however, elapsed before this happened again. At
1268 the end of November, 1268, a very hard frost set in. On the 25th 'as the rain fell from the sky it was frozen so that no one was able to walk without danger to life and limb, or ride because of the slippiness of the ice'.[5] Shortly after, possibly on the 30th, 'the Thames, from the bridge upwards, was so hard frozen that men and beasts passed over. Ships could not enter

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1. Ibid.
2. Ibid.
3. Ibid.
4. Thornton.
5. A.M. Os.

the river, and so, much merchandize was brought to London from Sandwich, and other places, by land.[1] This state of affairs
1269 seems to have continued until 2 February, 1269.[2] No details
1273 can be found for a 'hard and long lasting frost' in March 1273,[3]
1280/1 nor for a fifty days frost which started on 22 January, 1280/1.[4]
1281/2 For the winter of 25 December to 2 February, 1281/2, however, it is recorded, 'there was such a frost and snow as no man living could remember the like: where through five arches of London Bridge were borne down and carried away by the streame; and the like happened to many other bridges in England, [including that of Rochester].[5] And not long after men passed over the Thames between Westminster and Lambeth dry short.'[6] Another chronicler gives a picturesque touch to his account of this winter by saying that 'the fish were frozen to death in ponds and the birds died in the woods'.[7]

It is impossible to believe that there were no outstanding periods of frost and snow between 1282 and 1362. Rain, wind and thunder, these were in quantities, but no snow storm or series of snow storms have [at present] come to light, until, according to some old chroniclers, 'a very terrible frost', started on
1362/3 16 September, 1362 and lasted until the following April.[8] This

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1. Holinshed C. Thornton seems to date this frost 1270-1.
2. A.M. Os.
3. A.M. Dunst.
4. A.M. Os.
5. A.M. Dunst.
6. Stow and Thornton.
7. A.M. Wig.
8. <u>Nature</u>, 1930.

statement is a little too much to believe; and, it is more likely that Holinshed, quoting Walsingham, gives dates that are nearer the truth, putting the limits of the ice-cold period between 17 December, 1362, and 19 March, 1362/3.[1] The suffering must have been very considerable, and 'people said there had been nothing like it for a hundred years.[2]'

Extreme as this winter was, it can have been a mere nothing
1404/5 to 'the grete frost that endured xv wekes' in 1404-5,[3] or to
1407/8 that which began in December, 1407, and lasted to the following March. It is said, on what grounds it is difficult to determine, to have been the coldest of the past one thousand years.[4] Capgrave remarks that it was 'a gret wynter ... that the most part of small birdis wer ded'[5]; and Holinshed says, 'that thrushes, blackbirds and many thousand birds of like smaller size perished with very cold and hunger'.[6] England was evidently
1408/9 in for a period of cold, as the next winter, 1408/9, 'was a gret frost in England that endured xv wekez'[7]; and the year following 'was the grete frost and ice and the most sharpest wenter that ever man sawe, and it duryd fourteen wekes, so that men myght in dyvers places both goo and ryde over the Temse'.[8] Three
1413 years later, in 1413, there 'was a great flood of snow and rain'[9]; but that closed the period of extreme cold for twenty years.

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1. Ibid.
2. Eul. Hist.
3. C.S. 1880.
4. Nature, 1930.
5. Capgrave C.
6. Holinshed C.
7. Eul. Hist.
8. G.F.L.C.
9. Capgrave Hist T.H.

1434/5 A great frost[1] began on 24 November, 1434, which continued until the following 10 February. The River Thames was again frozen, and so, intensified the misery of the people, already driven almost beyond endurance, by the high price of corn[2]. Every student of English history will remember the wet winter
1460/1 of 1460/1, and how in slush and rain the Earl of Warwick tramped westward to join Edward, now Duke of York, at Chipping Norton in February;[3] and how that miserable season ended in a whirling snow storm of historic fame. Had it not been for that cruel blizzard on 29 March, and the change of the wind that blew the blinding snow flakes into the eyes of the Lancastrians, there would have been no Yorkist victory at Tewton. As it was the snow caused thousands of deaths, and as it, encrimsoned with Lancastrian blood, melted, the Stream nearby, the Cock, ran red, and Edward, Duke of York, was Edward IV of England[4]. Another
1465 bad year in his reign was that of 1465 when there was 'grete froste and grete snowe where thorowe mych cattele of bestis and shepe for fawte of mete were distroyed.[5]' But Edward continued King though famine stalked through the land.

It does not appear that the Thames was frozen over again until the early years of the sixteenth century. It was probably
1506 on 16 January 1505/6, in that great storm, that drove Philip of

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1. G.F.L.C.
2. Thornton. It was about £1. 6. 8. a quarter.
3. Oman, 'Warwick'.
4. Sir J.R. Lanc. and York.
5. C.S. 1880.

Castile to land at Falmouth, because 'at that tyme was such a sore snowe and frost that men myghte goo with cartes over the Temse ..... and it lasted till after Candlemas.'[1] Thus the century began with severe cold, which presumably occurred again
1511 in 1511, as Erasmus wrote that he would visit London if the frost cleared away.[2] Four years later, in the December and January,
1515/6 1515-16, 'there was so great a frost that carriages of all sorts passed over the ice across the river between Lambeth and
1525 Westminster.'[3] The year 1525 proved one of tragedy for some for after 'great winds and rain', there followed such a sharp frost 'that many lost the use of their limbs and some perished with cold.'[4] Eleven years later, their was another frost, for on 22 December, 1536, the Thames was so much frozen over that royal barges could not make their way, and the King, the Queen, and Princess Mary passed through the City on horseback.[5] In
1542/3 February, 1542/3, there was a sharp period as Wriothesley says 'by reason of this greater cold and frost, Lenten vitalles ware excedinge rare.'[6] And then for nearly twenty years the curtain is rung down on the records of frost and cold.

1561 In December, 1561, there was much snow in Teesdale but this was not unusual.[7] On 21 December, 1564, however 'began a frost which continued so extreamely that on New yeares even people

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1. G.F.L.C.
2. G.S.P.H. VIII.
3. Thornton, Cf. W.C.
4. ? Holinshed, C.
5. G.H.
6. W.C.
7. Hist. MSS. Com. 24. I.

went over the Thames on the Ice from London bridge to Westminster, and played at foote-ball as boldly there as if it had been on dry-land'.[1] But this frost was not destined to be of long
1564/5 duration, because on the night of 3 January, 1564/5, 'it began to thaw' and 'caused greater floods and high waters that bare downe bridges and houses and drowned maine people in England, especially in Yorkshire'.[2] After one day there 'was no yce on ye Thams to be sene, but that all men might rowe ovar and alonge ye same, it was so sodlaynly consumed.[3] It is possible that the
1570 heavy snowstorm of 15 December, 1570, was confined to East Anglia. There seems to be no record of its downfall in the London neighbourhood; but as the snow continued until 1 February,
1570/1 1570/1, it would seem more likely that it spread over a wider area than is shown by the actual account.[4]

1578/9 The winter of 1578/9, was short-lived but sharp. On 4 February and the following night, there 'fell such abundance of snow that .... in the morning the same snow was found in London to lie two feet in the shallowest, and, otherwise, being driven by the wind, very boisterous in the north east, banks one ell or a good yard and a half deep. In the which drifts of snow, far deeper in the country, many cattle and some men and women were overwhelmed and lost. It snowed until the eighth day of the month, and freezed till the tenth, and then followed a thaw.[5]'

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1. Stow.
2. Holinshed C. cf. T. and K.
3. Hist. MSS. Com.
4. Blomefield.
5. Holinshed C.

This caused great floods, Westminster Hall being inundated, and 'after the fall thereof some fishes were found to remain in the said hall.'[1] Although March was said to be a 'moyste Marche'[2], there were later, cold periods, and another account states on
1579 5 May, 1579, 'this last winter hath been very hard through frost and great snows'[3]; and, no doubt, the writer had in his mind the snow-fall in London, between 4 a.m. and 9 a.m. on 24 April, when it reached the depth of a foot.[4] Nor does that Autumn seem any better, for a writer abroad says on 1 November 'we hear from England that there is fearful rough weather there, with rain, heavy snow and unusual cold such as has not been experienced for sixty years.'[5]

After a series of rainy years, cold set in on 2 December,
1594/5 1594,[6] and between 5 and 7 March, 1594/5, the Thames was again frozen; but there is no statement, on this occasion of the City of London being flooded when the thaw came.[7] It is true
1604 that the year 1604 was one of great drought,[8] but it also seems to have been one of unusual cold. The Venetian Ambassador records that furs were worn as late as 20 June;[9] and another spell of very cold weather set in during the Autumn,[10] followed
1605 by a cold spell round Easter 1605, when, on 31 March, Lady

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1. Ibid.
2. Dr. J.D.
3. Hist. M. SS. Com. 45.
4. Holinshed C.
5. F.N.L.
6. Dr. J.D.
7. <u>Nature</u>, 1930.
8. W.Y.D.
9. Cal S.P. Ven. 1603-7.
10. F.P.W.

Margaret Hoby says 'this day was verie Cold, and divers shoures

1606/7 of snowe & hall.'[1] In January, 1606/7, the river was frozen over at Barnstaple so 'that manye hundred people did walke over hande in hande'[2]; but this pleasant amusement soon turned to disaster when the ice melted and Barnstaple sustained £2000 damage[3] from tempest and flood.[4]

One of the earliest occasions in the year when the Thames

1607/8 was frozen over, was 12 December, 1607. The Archbishop of Canterbury [Richard Bancroft] is stated to have come from Lambeth Palace to the court over the ice;[5] and 'fairs were held' on the ice which was '5 foote thicke'[6]; and 'all sorts of diversions were exhibited, and carriages passed with safety from London to Southwark. The severity of the weather was so great that many animals and birds perished and the produce of the gardens was almost all destroyed.'[7] This was, indeed, a very famous winter. One record states that there 'was an extreme frost which began about St. Andrew's Day [30 November] before Christyde, and continued till the first week of Lent following, which was about ix weekes. The extremity whereof caused great scarcety of water for cattel soe that many dyed in sundry places .... The same forced many such as were deseased to yeald to nature: especially ould people.'[8] It would appear that G. Hopwood, writing to James

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1. M.H.D.
2. Reg. Barnstaple.
3. _Ibid._
4. _Vide_, Ch. V.
5. Court T. of J. I. i. p. 71.
6. Reg. Nantwich.
7. Thornton.
8. Reg. Nantwich. _Cf._ S.P. Dom. J. I. XCIII. Doc. 81. where 'the extreame sharp weather' is said to have carried off many in 1608/9.

Asheton on 15 December was determined not to 'yeald to nature' as he says 'such is the extremity of the cold, that I dare not venture to go from the fire, except to church.'[1] It has been said that, mainly about 10 January, this was, probably, the most severe winter on record in Western Europe; and it was long remembered as 'the Great Winter'[2]. In the Lake District, its severity was unprecedented. Ullswater was frozen over from 1 December to the middle of February, and on the 9th of the latter month, there was 'a boonefire builded on the Ise and matches of Shotynges Shott.'[3] It is not surprising that Walter Yonge writes, in March, 'This winter last past hath been such an extreme winter for frosts as no man living ever doth remember or can speak of the like.'[4] And later in the year he records 'an extreame dearth of corn happened this year by reason of extreme frosts (as the like were never seen) the winter going before, which caused much corn to fall away.'[5]

1614/5 Bad as was the winter of 1607-8, it would appear to have been equalled between 10 January and 7 March, 1614/5,[6] or to 10 March, in Northamptonshire,[7] or, indeed, until 28 May, in The Peak.[8] Drake describes it by saying, 'it began to snow and freeze [on 16 January] and so by intervals snowing without any thaw till the

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1. Hist. M. SS. Com. 35.
2. <u>Nature</u>, 1930.
3. Ibid.
4. W.Y.D.
5. Ibid.
6. Drake.
7. Reg. Almandbury, Yorks. Reg. Mosley. Staffs.
8. Reg. Stamford Barck. Northants.

7th of March, ... at which time was such a heavy snow upon the earth as was not remembered by any man living.' When the thaw came there were immense floods in York, Helmsley and elsewhere, and 'many bridges were broken down,'[1] including that of Rawtrey which was 'utterly ruinated and carried away by ye greatnesse of ye floods there.'[2] Sir Henry Anderson wrote from Newcastle on 28 January, that owing to great frosts, snow and rain he has been unable to come to London for any business.[3]

There seemed every promise of a bad winter in the latter
1621 part of 1621. The previous summer had been very wet and cold, and, even in Devonshire, the harvest was not ended before November.[4] Then a very sharp snap followed in London, on 15 December, when it was said 'the weather is bitter cold and my Inke freesethe to [o] fast to contynewe a Long Letter.'[5] Evidently from this time onwards, there was considerable frost
1621/2 and the waters round London were frozen. On 10 January, 1621/2, 'the king being at Theobalds adventured to ride over a water in his park [the New River[6]], and being in the midst the ice brake and his horse began to sink, but, with much ado, recovered the bank, and being landing the king reined his horse so hard that he came back upon him and cast off the king, who fell backward into the water with his head downwards, and was in great peril

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1. Drake.
2. Quoted by E.J.
3. Hist. M. S. Com. 24. I.
4. W.Y.D.
5. Hist. M.S.S. Com. 73. Cf. A.W. in 1684.
6. Nicholl's Progresses III.

of drowning, had not his footmen been near, who .... recovered him again out of the water.[1]'

Another period of freedom from excessive frost and snow seems to have set in after 1622. Certainly there was on 16 November, 1625, at Plymouth 'The violent extremity of an unknown snow,' which proved 'the death of many people and the loss of many sheep and cattle and within the memory of man never covered so thick the face of Devon[2]'; but about eight years elapsed
1632/3 before the Thames was nearly frozen over on 11 February, 1632/3,[3] and two more years went by before there was a very heavy fall of
1634/5 snow in Cheshire in January, 1634/5, 'such as no man then living could remember, wherein many perished[4]'. This fall continued for a long time as the Bishop of Chester wrote on 13 March, that he could not go to Lancaster for the roads, owing to the snow, were hardly passable for coach or for litter.[5] It is also proved to be a very wintery period by 'A winter Sermon Preached in the Cathedrall Church of St. Paul's in London upon Shrove Sonday last, 1634, in the afternoone being a time of extraordinary snow and floods' by John Gore, Rector of Wendenlofts, Essex.[6]' There does not, however, seem to have been a really bad general winter until
1639/40 1639/40, when, once again, the Thames was frozen and an ox was roasted on the ice.[7]

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1. W.Y.D.
2. Hist. M.S. Com. 23. I.
3. G.H.
4. Hall.
5. Hist. M.S. Com. 23. II.
6. Pub. 1635. B.N.C. Lib.
7. Nature, 1930.

1641-2 In Yorkshire from November 1641 to the following February, the road owing to heavy snowfalls were impassable.[1] A somewhat
1642 unusual frost was experienced in October, 1642, to add to the miseries and discomforts of the participants in the Great Rebellion. On the 22nd, the night before the battle of Edgehill the Parliamentary troops lay in the open field at Kineton when after rain there was bitter cold.[2] The next morning, Sunday, was light and sunny, but that night it was frosty, and Clarendon says that the Royalist Army 'had not the shelter of tree or hedge, and after a very cold night' many straggled off and were knocked on the head by the people.[3] Major General Ludlow experienced disaster and records that the night was 'very cold by reason of a sharp frost.'[4] The Autumn remained inclement, and Joseph Lister describes how, on 18 December, in the first siege of Bradford, snow played an important part. The entries to the town had been blocked and the defenders were doing their best to resist the onslaughts of the Royalists. 'Providence in a most miraculous and surprising manner interfered in our favour by sending the heaviest shower of snow attended with a mighty strong and blustering wind which beat directly in their [the royalists'] faces, that they were not able to withstand or support it.'[5] The following winter was

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1. Sir H.C.
2. Walford.
3. Clarendon.
4. L.M.
5. J.L.G.A.

correspondingly cold, and Fairfax writes of its bitterness when
1643 marching from the east to Manchester on 29 December, 1643.[1] In
1643/4 January, 1643/4 there was much snow, and as this melted about the 21st, the river Weaven at Nantwich rose in flood, and so hindered the Royalists in resisting the Parliamentarian advance.[2] Early the following March the snow falls were very heavy and caused the greatest discomfort to the Scottish army under Leven when marching south.[3] Frost and snow set in again in the middle of
1644 October;[4] and on 14 December, Ludlow, after holding Horseham Bridge, so that his scattered force might recover was nearly captured as the snow had covered the beaten ways and he had to make a detour to reach the main road again.[5] No references
1645 have been found for the greater part of 1645; but Joscelin records that on 8 December, when there was a 'newe moone it began to frize and so continued exceeding violent ... after a month's time it thawed, a little, and raynd, but continued to frize un-
1645/6 til Jan. 28 [1645/6] : it begunne to thawe & raynd: ye frost wonderfully in the ground, and the ice of wonderfull thicknes; high half a yard in some places; a quarter of an ell at least in my pond; by reason of thawes it was wonderfull glaucy.'[6]

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1. Fairfax M.
2. Ibid.
3. Sir C.F. Marston Moor.
4. R.J.D.
5. L.M.
6. R.J.D.

1646/7 From that time there is a blank until 31 January, 1646/7, when in South Yorkshire, 'it snowed all day till nighte', and, on 1 February, 'it continued snowing' and on the 18th there was 'extreme frost which continued ... with greater vyolence then
1648/9 before'.[1] But this was probably purely local, as in 1648, in Devonshire, where, on 13 November, it is recorded that 'the winter is so suddenly fallen upon us'.[2] This latter case is certainly local, because there were only half a dozen days of frost and snow during the whole of this winter,[3] one of which would include the fall of snow when Charles I was executed on 30 January, 1648/9; and another, on 9 February, when snow flakes fell upon his pall at the time of his burial in St. George's Chapel, Windsor.[4] Again local cold snaps are shown on 18 December
1652 1652, when it was frosty between Oxford and London;[5] and in
1654 Lanceshire on Friday, 24 November, 1654, when 'a huge snow fell this day, insomuch as I could not go to Marten';[6] and in Yorkshire
1655 in December, 1655, when the river Ouse was frozen, though on this occasion there was not much snow.[7] This frost was, perhaps, rather more than local, as it seems to have continued and been felt in the south, for John Evelyn records that he 'went to Eltham on foot, being a great frost, but a mist falling, as I

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1. A.E.D.
2. T.P.
3. J.E.D.
4. Sir C.F. Crosswell.
5. O.H.S. XLIV. 30.
6. H.N.A.
7. H.S.

returned, gave me such a rheum as kept me in doors near a whole month after'.[1] Major General Ludlow also had experience of this cold for he was journeying to London between 5-10 December, and travelled one night till 9 p.m. another till 12 p.m. and on a third, 'by help of the moonlight and the snow that lay upon the ground reached Dunchurch before midnight.'[2]

1657/8 The winter of 1657/8 proved a severe one throughout the kingdom. The first reference to it is on 28 January, when Henry Newcome, on going to Manchester, 'it being a hard frost and slippery .... had a dangerous fall'.[3] On 7 March, Evelyn writes, 'This had been the severest winter that any man alive had known in England. The crows feet were frozen to their prey. Islands of ice inclosed both fish and fowl frozen alive and some persons in their boats.'[4] At the conclusion of the year it was equally cold. From London to Cambridge on 3 December, 'it was very cold in our faces & the way slippery'[5]; and two days later, at Manchester, 'it was a frost and pinching cold ... there was snow fallen ... to the midle every step in the streets.'[6] A worse

1659/60 turn came in 1659/60, when, at Warrington, the season was very 'sharp'.[7]

Historically, however, it did not much matter what Newcome was feeling in Lancashire. Far more important national affairs

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1. J.E.D.
2. L.M.
3. H.N.A.
4. J.E.D.
5. J.W.D and C.
6. H.N.A. Cf. Hist. M.S.S. Com. 29. III.
7. Ibid.

were afoot, and the weather might have made all the difference. Fortunately, for later events, it did not; but, when General Monk, after much cogitation, crossed the Border on 1 January, the ground was covered with snow. This undoubtedly added to the discomforts of his army and impeded it; but had the drifts been deeper, it might never have won its way through, and the Restoration might have been delayed. As it was, it was bad enough, and a contemporary says, 'The frost was great and the snow greater, and I do not remember, that we ever trod upon plain earth from Edinburgh to London.'[1] In the Capital on the 3rd, there was 'a great frost' continuing on the 6th, when there was 'still a great frost', and on the 15th, when it was 'a cold day and a great snow.'[2]

In accordance with the vagaries of the English climate,
1660 although there was 'a very hard frost' on 20 November,[3] the months when it would have been natural to expect chilly weather were unusually mild. Pepys writes 'no cold at all ... the flyes fly up and down and the rose bushes are full of leaves, such a time of the year was never known in the world before.'[4]
1661/2. The same thing occurred in January, 1661/2. There had been slight frosts in December, on the 8th, the 12th, and 13th;[5] but Pepys writes on 15 January, 'it having hitherto been summer

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1. Quoted by A.B.
2. S.P.D.
3. Ibid.
4. Ibid.
5. Ibid.

weather .... just as if it were the middle of May or June.[1]' There was an isolated fall of snow on 25 January[2]; but nothing more in the way of nice bright frosty weather for that season.

To make up for this peculiar 'heat wave' the winter started

1662 early at the end of 1662. On 17 November, Pepys 'found the tops of the houses covered with snow which is a rare sight that I have not seen these three years[3]'. The next day, there was 'a very hard frost[4]', and on 30 November, 'a bitter cold frost[5]'. By this time the waters in, and near, London were frozen, and on 1 December, Evelyn says that he saw 'the strange and wonderful dexterity of the sliders [skaters] on the new canal in St. James's Park, performed before their Majesties, by divers gentlemen and others with skates, after the manner of the Hollanders, with what swiftness they pass, how suddenly they stop in full career on the ice; I went home by water, but not without exceeding difficulty, the Thames being frozen, great flakes [floes] of ice encompassing our boat.[6]' The frost continued to hold all over the country. On 5 December, at Manchester, Newcome 'stird not out all day. It beingevery cold by frost and snow.[7]' In London, Pepys speaks of 'a snow and hard frost.[8]' On 7 December, the metropolis was covered by 'a great snow', and on the 11th, 'a great frost upon the snow.[9]' When Pepys awoke on the morning of the 12th, he

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1. Ibid.
2. H.N.D.
3. S.P.D.
4. Ibid.
5. Ibid.
6. J.E.D.
7. H.N.D.
8. S.P.D.
9. Ibid.

found 'from a very hard frost ... a great thaw.'[1] This thaw, however, could not have been quite as great as Pepys thought, because, on the 15th, he went to the Duke of York, 'and followed him into the Park, where, though the ice was broken and dangerous, yet he would goo slide upon his scates .... he slides very well.'[2] The thaw proved very temporary. Certainly on the 22nd, it was 'foal weather'[3], which may, presumably, be translated into 'rain'; but Christmas Day was 'a most brave cold and dry frosty morning'[4]; and the winter started again. Pepys records 'a very great frost' as late as 8 February; and Newcome says that on the 13th 'it did snow all day.'[5]

1663 The latter part of the next March, was very cold and on the 29th, it snowed 'very hard.'[6] It was also very cold in April, particularly on the 15th, but there was no real winter like the year before. This is proved by Pepys' remark on Sunday, 6 December, 'the first snow we have seen this year ... it being a cold day'[7], but this only lasted until the 10th, when it became 'pretty warm again.'[8] There was no winter worth recording in

1663/4 1663/4; there was a little snow in London on 21 March[9], and 'great snow' in Staffordshire[10] during that month; but nothing more.

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1. Ibid.
2. Ibid.
3. Ibid.
4. Ibid.
5. H.N.D.
6. S.P.D.
7. Ibid.
8. Ibid.
9. Ibid.
10. Reg. Alstanfield.

1664/5 The winter of 1664-5 made amends. In London 'it was exceeding cold and a hard ... frosty season'[1] on 22 December. On the 24th, it was 'a most fine bright moonshine night and a great frost'[2]; and this was followed by 'bitter cold'[3]. By the 29th, a severe frost had set in, mainly in the north west, in the counties of Chester and Lancaster, and during the next eight weeks 'some ground would not plough'[4]. In London, on 3 January, 1664/5, the streets were 'full of footballs it being a great frost.'[5] The next day, the extreme cold affected Pepys' health, and be began 'to burn within' and had 'pimples and pricks' all over his body.[6] The frost continued, and Pepys, having recovered, was able to go out on the 9th, and 'saw a woman that broke her thigh in her heels slipping upon the frosty streete.'[7] Even in Devonshire, on the 15th, the weather was recorded as very cold.[8] On the 18th, came 'a great thaw; it is not for a man to walk in the streets'; but this was only temporary, because it was 'a brave frosty day and good walking' on 3 February,[9] and Pepys describes the 6th, as 'one of the coldest days, all say, they ever felt in England.'[10] The weather continued winterly until

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1. J.E.D.
2. S.P.D.
3. Ibid.
4. L.G.L.C.
5. S.P.D.
6. Ibid.
7. Ibid.
8. T.P.
9. S.P.D.
10. Ibid.

well into March, when snow hindered ploughing in Lancashire,[1] and the 6th, was a 'most lamentable cold day as any this year.'[2]

1665 In the November of 1665, it looked as if there were going to be another hard winter, and it was certainly much desired, as it was hoped that it would abate the ravages of the plague. On the 22nd, 'a very exceeding hard frost'[3] began and continued till the early part of December.[4] The weather set in cold again on the 12th. A sharp east wind and frost visited Oxford on the 16th and 17th, and there was snow on the hills on the 18th.[5] By the 22nd the Thames was frozen; but five days later, 'the thaw having broken the ice', Pepys took boat, it proved, however, too dangerous as the floating ice was liable to crush the boat, and so he thought it wiserto land.[6] There was no more frost and

1665/6 snow until one short recurrence on 4 February, 1665/6,[7] the snow covering the plague graves in the Church yard, so that the timorous Pepys 'was less afeared for going through.'[8]

1666 Christmas week of 1666, was a time of cold, frost and snow, and the night of the 28th, was 'most horrid cold'.[9] By 1 January, 1666/7, the Thames was covered with ice, and de Repas wrote to Sir Robert Harley from London on the 5th 'this is very hard weather to go to sea. The most part of the Thames is

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1. L.G.L.C.
2. S.P.D.
3. Ibid.
4. Ibid.
5. Phil. Trans. 1716.
6. S.P.D.
7. Ibid.
8. Ibid.
9. Ibid.

frozen, and it is thought one may venture over within two days. Firing is so dear that I spend as much on it as on victuals.'[1] So it remained until the 9th, when the way was 'most horribly bad upon the breaking up of the frost.'[2] 'Misly' and 'warm summer weather' continued till 24 February, when it became 'bitter cold'[3], until 6 March. That day was the climax of the season, 'the King saying today that it was the coldest day he ever knew in England.'[4] Evelyn was sufficiently struck by the cold and snow, to speak of them as 'prodigius'[5]; and Anthony Wood records of Oxford, 'such weather at this time of the year that hath not bin remembred by man.'[6] After snow, both in London and Oxford, on the 9th[7], there was on the 16th[8], a hope of better times when warm weather set in; but it was still so cold on 4 April, that 'there was hardly a leafton a tree.'[9] After that day the temperature became normal. The year ended, however,

1667 almost as bitter as it had begun. As early as 13 November 1667 there was snow at Henley, and four days later, 'great store of snow' at Oxford.[10] At the end of December, the weather, in Cambridgeshire and East Anglia, was 'cold and raw' with much east wind.[11]

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1. Hist. M.SS. Com. 29. III.
2. S.P.D.
3. Ibid.
4. Ibid.
5. J.E.D.
6. A.W.
7. Ibid & S.P.D.
8. S.P.D..
9. J.E.D.
10. A.W.
11. J.W.D. & C.

It might well have been thought that this was a precursor of a biting January; but this was not the case, and except for a few isolated frosts, there was no notable cold. In fact,
1667/8 February, 1667/8, proved very much milder, and the vegetation was much more advanced, in Oxfordshire, at any rate, than it had been 'in the latter end of April of the last year.'[1] This mildness was repeated towards the conclusion of the year, and it was
1668 not until 24 December, that Pepys records 'a cold day, in hopes of a frost, I begin this night to put on a waistcoat, it being the first winter in my whole memory that ever I staid till this
1668/9 day before I did so.'[2] On 3 January, Pepys still had hopes of a frost, - 'very cold it is' -, and on the 8th, Newcome says it was, 'a miserable snowy day', when Elias Ashmolen took him to see the King;[3] but all hopes died away when the frost broke about a week later.[4] When a cold spell came, it came too late. In Oxfordshire, on 20 March, it became 'very cold and frosty to the killing of yong fruit and flowers'; and on the 24th, there was 'snow almost half a foot deep.'[5] The same day, Pepys walked in his garden in London, but, at night, it was 'mighty cold and
1669 snow.'[6] This year, 1669, ended in a short period of somewhat remarkable cold all over the country. There was a slight frost at Oxford on 13 December.[7] Wood refers to it as having begun

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1. A.W.
2. S.P.D.
3. H.N.A.
4. A.W.
5. Ibid.
6. S.P.D.
7. Phil. Trans. 1716.

about the 17th, it 'being a vine drie time and want of rain'.[1] On the 26th, Dr. Wallis, at Oxford, states 'the weather was colder than ever I found it since I could take it by the measure of a thermometer.'[2] And so it continued until the night of 3

1669/70 January, 1669/70, when a thaw set in; but this can only have been temperary, for in February, Wood says, that it was a very hard winter with very little break since 17 December;[3] and on 8 February, G. Ayloffe wrote to Roger Kenyon that it was so cold that it had brought on a kind of 'paralytic distemper.'[4]

Nothing very remarkable in the way of severe winters

1671 happened during the next few years. In December, 1671, according to Wood, there was 'an extreame cold winter';[5] and on the

1671/2 following 3 February, according to Evelyn, there was an

1672 'extraordinary snow'.[6] There was on 9-11 December, 1672, a glazed frost, or 'silver thaw', in Oxfordshire[7] and Somersetshire;[8] and in the latter county vast numbers of trees were destroyed by the weight of the ice. In one case, an ash-branch, weighing ¾ lb., had 16 lbs. of ice on it, the ice being 5 inches thick.[9]

1673/4 Nearly a year later, at Oxford, on 17 January, 1673/4, there was 'a great store of snow'; but this immediately passed away in flood.[10] In February, Wood says, 'never suche cold knowne at this

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1. A.W.
2. Phil. Trans. 1716.
3. A.W.
4. Hist. M.SS. Com. 35.
5. A.W.
6. J.E.D.
7. Phil. Trans. 1716.
8. <u>Nature</u>, 1930.
9. <u>Ibid</u>.
10. A.W.

time of year. Divers starved to death'.[1] A correspondent of Roger Kenyon writes on the 7th, 'it is hoped this frosty weather will dry up all your gouty humours and render you good att peditating as formerly.'[2] So writes Sir E. Harley from Westminster on 3 March, 'the weather has been so severe that I have been hindered on my journey. I expect the ways will prove very bad there being already a great deal of snow'.[3] This was followed by a 'great freezing' on the 18th.[4] The cold was very wide-spread. At Langdale, Durham, twenty families suffered terribly. 'The Snow from the hills covering the Tops of their Houses, that they could not get out, having burnt all their goods to keep them warm'.[5] Another family in Somerset, near Bath, was 'so beset with Snow that they were forced to live Three Days on nothing but grain.'[6] Death came to a young married couple at Tewkesbury, 'treading on Hymen's heels and their nuptial delights', and they were found in each other's arms buried in the snow.[7] The loss of cattle in all parts of England was very great.[8] The

1674/5 next January, 1674/5, after a mild start, was very much the same. Certainly on Wednesday, the 20th, there was 'a hard frost', and 'at night it snew'; but after that it was a very mild spring.[9] The following December, however, was wild. On the 12th it

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1. Ibid.
2. Hist. M.SS. Com. 35.
3. Ibid. 29. III.
4. A.W.
5. Bod. Lib. 19742. d. 2.
6. Ibid.
7. Ibid.
8. Ibid.
9. A.W.

1675 'snew again at night; it was ye deepest snow I ever remembred lying about knee high ... without any great drifts.'[1] The frosty January and the mild spring were almost exactly repeated in the
1675/6 year 1675/6.[2]

A return of the 'good old-fashioned winter' seemed likely
1676-7 at the end of 1676. In November of that year, there was a frost which lasted for three weeks in Oxford and caused many deaths, 'especially of the yonger sort and those of the gown [undergraduates].[3] This was followed by frost, snow and bitter cold from 2 December to the 21st, during which the Londoners were delighted to see 'a cheerful Charles driving his sledge on the ice of St. James's Park'.[4] It was evidently arctic at Belvori Castle as Lady Chaworth writes on the 7th, 'God bless your two deare sweet babies and keep them from the sharp colds of this seveare weather which had laid [me] up in the house this ten days'. It is recorded on the 12th, that 'the extremity of this weather which is a great snow .... makes the post so late'.[5] After the 21st, came a thaw for three days, but the frost returned on Christmas Eve, and continued without a break to the following 3 January.[6] It was a 'true' winter, for the rivers were ice-bound 'and the people pass over them ... the Thames at London was so much frozen that huts were built ... to sell brandy.

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1. R.J.D.
2. A.W.
3. Ibid.
4. A.B.
5. Hist. M.S. Com. 24. II.
6. A.W.

Carts and coaches went over. This was from the Hors Ferry to Lambeth and so upward towards Chelsey. They went on foot and crost the Thames with torches ... By this frost abundance of fish and fowl perished.[1]' In Derbyshire, the river Derwent was frozen over,[2] and then, suddenly, a thaw came, and in a few hours, on 3 January, the snow that had continued on the ground, 'was all gone'. It began again on the 21st, and lasted to the 31st. The greater part of February, was frosty and snowy, and, on 13 March, there was 'a great store of snow', but that was the last for that year.[3]

1677 The winter of 1677 and the early months of 1678 were mild;
1678-9 but the two winter seasons of 1678 and 1679 were very prolonged. The frost seems to have begun early in December, 1678, Katherine Stewkley writing to Penelope Verney says on the 6th, 'If my Love to you were not very ardent, surely this cold weather would chill it, for I do not know that I ever was sincible of a sharper time, and tho' (even in the Chimney Corner) I am scars able to writ.[4]' With occasional breaks this went on to the end of the month, which was described as 'frosty and dry'.[5] These words were also applied to the first four days of January, 1678/9. A heavy fall of snow occurred at Oxford on the 7th, and from the 11th, to the 14th, there were continuous snow-storms,[6] not only in Oxford, but

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1. Ibid.
2. Reg. Darby Dale.
3. A.W.
4. V.L.
5. A.W.
6. Ibid.

elsewhere, as for example, in Lancashire.[1] On the 16th, at Oxford, it snowed from 12 noon to 6 p.m.; and so it remained, 'bitter cold and frosty' until the 28th, when it snowed again. On the same day James, Duke of York wrote from London to William of Orange, saying 'It has been so very stormy weather the later end of the last weeke and the beginning of this .... and the frost has been sharper these three days last past then all the winter; and till now there has been very little ice in the river, and it is almost frozen up.'[2] The next day 'the weather was relaxed and the wayes slabby'.[3] But still the winter would not pass away, for, after a few days and a little rain, during the first fortnight of February there was snow and frost on most days. After that the thaw came, but with practically no rain, so that Wood writes, on 28th, 'never such a drie winter in the memory of man'.[4] It looked as if the winter were going to return in the first week in March, when there were both frost and snow; but thaw and 'drisling' set in about the 7th.[5]

1683-4 The winter of winters was that of 1683-4. One of the best descriptions is given in the Register of Ubley, Somerset. 'In the year, 1683, was a mighty great frost, the like was not seene in England for many ages. It came upon a very deep snow, which fell immediately after Christmas and it continued untill Lady

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1. H.N.A.
2. Hist. M.SS. Com. 41.
3. A.W.
4. Ibid.
5. Ibid.

day .... Somm of the snow remained at Mendipe [ on the Mendips ] till Midsummer. It was so deppe and driven with winde against the hedges and stiles that the next morning ... men could not go ... to serve there cattell without great danger of being buried, for it was above head and shoulders ... and some it did burie .... but in a few days the frost came soe fearce that people did goe upon the top of it over wals and stiles as on levell ground. And many men ... did hew the ice every day for water by reason of the sharpness of the frost and the deepness of the snow. Som that was travelling on Mendipe did travell till they could travell no longer and then lye down and dye .... the sharpness of the season tooke off the ... aged and .... them that was under infirmities, the people did die so fast that it was the greatest parte of their work (which was appointed to doe that worke) to burie the dead, it being a day's work for two men .... to make a grave .... the frost was a foot and a halfe and two foot deepe in the dry earth, and where there was moisture and watter did runn the ice was a yard or fower foot thick, in soe much that ye people did keepe market on the River at London.[1] '

Sir John Larther refers to this state of affairs, and writes, 'The Thames has been covered with ice since New Year's day: it is now the common road to Westminster both on foot and in coaches, and much better than the streets. One entire street of booths is built over to Southwark and infinite numbers

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1. Reg. Ubley, Somerset.

scattered up and down. We hear great complaints from the country of the dearth of cattle, fowl, fish etc.'[1] In spite of this scarcity of cattle, 'a whole ox was roasted on the ice near Whitehall'[2]. A contemporary noted in his diary concerning 11 January, 'This day I walkt over the ice from Temple Staires to the Barge Houses against the Temple. I spoke with those that did see a coach with two horses drove across the Thames about 2 daies since. I saw 12 coaches plying at Temple Stairs to carry persons to Westminster on the ice; 100's of booths were sett up, a whole street from the Temple to Barge Houses, meat roasted there, booksellers, shoemakers trades were there; several timber booths; Bull-baiting against Whitehall.'[3] It is recorded that everything was frozen within doors and without, and on 2 January, Wood says, 'Wednesday night, my bottle of ink frose at the fier-side' at Oxford[4], and again he says, on the 24th. 'Very cold, the quil would not run'[5]. At Southampton, at the beginning of February, there was a most unusual sight. The river 'was frossen all over and covered with ice from Calshott Castle to Redbridge, and Tho. Martaine, Ma$^{r.}$ of a vessel, went upon ye ice from Beray, near Marshwood, to Milbrooke point. And the river at Ichen Ferry, was so frossen over that several persons went from Blauvais Hill to Bitterue Farme,

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1. Hist. M.SS. Com. 25. p. 193.
2. Maitland.
3. Hist. M.SS. Com. 39.
4. A.W.
5. Ibid.

forwards and backwards'.[1] In Lancashire, Newcome complained that 'so many pleasant things are destroyed by this severe winter';[2] and in Oxfordshire, laurels, bayes and philesy-hedges were killed.[3] It was this sad destruction of trees that caused William Cater of Merton College, to write, for recitation at the <u>Encaenia</u>, some elegiacs, entitled '<u>Horti Botanici querela</u>'.[4] In the Newbury district, oaks and hollies were split, many parks of deer were destroyed and quantities of birds perished. Men had to be employed to break the ice under the bridge at Newbury, as it was thought that it might give way to the pressure.[5] The Earl of Ailesbury gives a picturesque description of this winter's effect and of its conclusion. 'It lasted thirteen weeks' he says, 'and the sea was frozen for two miles from the shore. And we had no correspondence from abroad. However, the snow lying continually the harvest after was plentiful, and the spring and the fruits more forward than usual by near three weeks, by reason that, in March, we had no frosts nor cold winds ...... The thaw began at two in the morning and out of the King's bed-chamber windows we saw a waterman in the middle of the river in his boat .... in most places the heaps of ice were twenty feet high.'[6] So ended 'the Great Winter'.

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1. Reg. Holy Rood, Southampton.
2. H.N.A.
3. A.W.
4. Ibid.
5. W.M.
6. M.T.E. of A.

Eleven years passed before another really severe winter came. Certainly, it is recorded, that between 3-5 January,
1684/5 1684/5 it was 'as cold as any day .... in Dec. or January' of the previous year; and that there was a 'little whiffling snow
1685/6 on 8 Feb. and 1 March'[1], but nothing more. In the next January
1686/7 there was a frost on the 20th at Oxford[2]; and on 24 March, 1686/7 in Lancashire there was 'a snow 4 inches deep'[3]. The spring of
1688 1688 might, perhaps better be called a true winter. In Oxford, on 3 April, there was 'a great deal of snow more than ever fell in one or two dayes in the winter going before'[4]. This was followed by other falls on the 5th and the 8th. By the middle of the month, the easterly winds still prevailed in the London neighbourhood[5]; and it is recorded on the 29th, 'the weather was till now so cold and sharp, by an almost perpetual eastwind which had continued many months, that there was little appearance of any spring, and yet the winter was very favourable as to forst and snow'[6]. In Lancashire, this spring was equally peculiar. 'In the beginning of Aprill it snowed 3 nights together. The cucco did sing before hathoms were greene, it was such a could late spring that grass was exterordinary poor at May day. It was so could a spring that blossoms continued upon apple-trees untill June'[7].

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1. A.W.
2. Ibid.
3. L.G.L.C.
4. A.W.
5. J.E.D.
6. Ibid.
7. L.G.L.C.

1688/9 The following winter and spring were much the same. Nothing serious in the way of frost or snow occurred. A frost began at Oxford, on 19 December, and lasted till 9 January, 1688/9.[1] In London, on 7 January, the Thames was almost frozen across.[2] Then followed rains. In Lancashire there was heavy
1689 snow between 26-28 March; but it had all gone, though six inches deep, by the night of the 28th.[3] What was perhaps remarkable, was that, Whit sunday, 19 May, there was snow, and it was 'very could' and that on the 21st, there was 'such a frost that there
1689/90 was ice'.[4] The winter 1689/90 seemed likely to be severe, though it ultimately proved more uncomfortable than really harsh. As early as 8 and 9 November, the Rev. Rowland Davies, in East Anglia, recorded 'I could not stir out, it snowed so hard these two days'.[5] This precursor of a long winter was followed, in the Lake District, on the 27th, by a frost,[6] and that again by a thaw. It froze again on 20 December.[7] In Lancashire there was 'heavy snow' on the 21st, and on the 23rd, 'exterordinary frost'; but it had all gone on Christmas Day.[8] It started again on 11 January, with 'another great snow', and before the 18th, 'the snow was 12 inches deep upon the levell ground,' and, although it began to thaw on the 22nd, 'snow continued on the hills almost to May day'.[9] In East Anglia it was much the same.

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1. J.E.D.
2. L.G.L.C.
3. Ibid.
4. Ibid.
5. Rev. R.D.J.
6. O.H.S. LXII. 349.
7. Ibid.
8. L.G.L.C.
9. Ibid.

There was a heavy fall on the 12th, and 'very severe weather and a great snow on the nineteenth.'[1] While, on that same day, which was a Sunday, Newcome 'was but too much disturbed at the rabble throwing snow-balls.'[2] In Oxfordshire, during February and March, it was 'drie and cold .... which makes the spring backward by a month than used to be.'[3]

1690/1 The winter of 1689/90 was not abnormal; that of 1690/1
1691/2 was dry and calm. From 19 January to 13 February 1691/2 there was a continuous frost in Oxford,[4] and the season in London was frosty and dry, and 'many persons die of apoplexies'.[5] Throughout the country,[6] particularly in Derbyshire,[7] there was a heavy fall of snow in February. Up to the end of April it remained 'very cold and unseasonable weather scarcely a leaf on the trees.'[8]
1692/3 But that was all. At the beginning of February, 1692/3, there was a week of weather 'like summer',[9] and in the last week of the month, in Oxfordshire, 'much snow';[10] and in London 'an extraordinary deep snow, after almost no winter and a sudden gentle
1693/4 thaw.'[11] On 1 March, Edward Hurley writes to Sir Edward Harley 'The weather continues severe. The snow is very deep in the

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1. Rev. R.D.J.
2. H.N.A.
3. A.W.
4. *Ibid.*
5. J.E.D.
6. *Ibid.*
7. Reg. Eyam.
8. J.E.D.
9. M.T.E. of A.
10. A.W.
11. J.E.D.

park. We take every care of the deer and sheep to provide hay and 'brows'. [i.e. garsell, or branches for the bark][1].

Of the next year there is little to record except that on 12 January, 1694 Roger Kenyon, M.P. hears from his wife that she fears he will suffer in London from the cold weather, and says 'pray thee, keep warm as thou can, and take something in thy pocket to the House [of Commons] to supp off: thy age and weakness require it.[2]'

1694 Once again, at the end of 1694, a great winter began. There had been snow in Oxford on 13 October, and on the 22nd, 'it snew much in the morn'[3]. But this did not continue, and it was not till 15 December, that 'the frost and snow started' in London.[4] Wood, who was growing an old man, found 'this hard winter .... hath strangely indisposed my body'. He states that 'about a week before Xtmas the frost began and now and then

1694/5 shours of snow fell.' Between 2 and 29 January, 1694/5, it 'froze hard' at Oxford;[5] which it seems to have done elsewhere as 'The Thames was frozen over'[6], on the 13th, and, by the 20th, in London, 'the frost and continual snow have now lasted 5 weeks.'[7] In Oxford, on the 29th, 'it snew all the day and part (if not all) of the night that followed, which made the snow deep'[8]. Hopes were entertained, at the end of the month, that the worst was

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1. Hist. MSS. Com. 29. III.
2. Ibid. 25.
3. A.W.
4. J.E.D.
5. A.W.
6. J.E.D.
7. Ibid.
8. A.W.

over, as 'the weather a little relaxed';[1] and on 3 February, in London, 'the long frost intermitted but not gone'.[2] And this proved true enough, for on the 11th, and for some days, there was 'more snow', and on 3 March, there was 'great store of snow and windy withall'.[3] That month continued most improfitious, and, at 'the latter end, ... sharp and severe cold, with much snow and hard frost.'[4] Wood was right, for on 13 April, he states, 'a most unnatural season: many dye [sic], cold wind continues yet and no appearance of spring.'[5] The next day, Evelyn records the condition of affairs even more clearly. 'After a most severe cold and snowy winter', he says, 'without almost any shower for many months, the wind continuing N. and E., and not a leaf appearing: the weather and wind now changed some showers fell, and there was a remission of cold.'[6] He was not altogether justified in his optimism, although he wrote on the 21st, 'the spring began to appear';[7] but it is not until 15 May, that Wood can say 'the first summer's day for heat that hath come this yeare.'[8]

1695 The autumn of 1695 was mild, and except for a sharp frost

1695/6 in March, 1695/6,[9] the winter passed. The autumn of 1696 had a short-lived frost in November, but a longer one came on 13

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1. Ibid.
2. J.E.D.
3. A.W.
4. Ibid.
5. Ibid.
6. J.E.D.
7. Ibid.
8. A.W.
9. J.E.D.

1696/7 December,[1] and continued until 17 January, 1696/7, when it 'relented'[2] for a time. It soon started again, however, and by 7 February, it was stated to be so severe that 'soldiers in the armies and garrison towns [were] frozen to death on their posts.'[3] But five days later the thaw came, and, it was on that day, that the Earl of Ailesbury went from the Tower, for trial, to Westminster Hall, in a chariot surrounded by twelve warders. He was evidently very sorry for them, and wrote, 'there was a great thaw and much snow in the streets by heaps, and people could not cross the streets without boards, and these poor men [the warders] were up to their knees from the Tower to Westminster Hall.'[4]

1697/8 Of actual incidents in the winter, 1697/8, there are few, but there are many reasons for thinking that it must have been a harsh one. It started badly enough, in South Yorkshire, on 17 December, when 'wee had a very great snow which was on the level ground about two foot and a half thick, after a pretty hard frost.'[5] This very considerable depth of snow thawed, with remarkable rapidity, on the 20th, with the result there was a flood 'roreing all of a suddain', which did damage to the extent of £3000.[6] A week later it began 'to freez very hard';[7]

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1. Ibid.
2. Ibid.
3. Ibid.
4. M.T.E. of A.
5. A. de La P.D.
6. Ibid.
7. Ibid.

and this went on into the next year. On 21 January Sir John Verney complains of 'this bitter weather' and says it 'maks me very febell.'[1] There is no question that 'the winter .... was long and sharp'.[2] On 25 January, Sir John Luttrell records in his diary, 'Yesterday a great frost broke, which had continued about 3 weeks, with great snowes: the River Thames was frozen over with it, so that in some places several persons went across it.'[3] Dr. Robert Wredale writes from Enfield on 10 March, 'after a very long and severe winter, I hope now we shall look again into our garden. I shall be glad to hear how it has fared with you.'[4] It certainly deserved these descriptions, for Evelyn writes on 21 April, 'an exceeding sharp and cold season' in London;[5] and two days later, de la Prymm says of Yorkshire, 'we have had a great deal of snow and hard frost, and indeed this winter has been so sevear that scarce anybody living saw the like. We have had six winters in this winter,[6] mighty sevear and cold, between everyone of which was great floods .... Corn of all sorts is exceeding dear, and the weather very cold'.[7] Nor did things improve for sometime 'Ever since that May came in there has been a great deal of snow and frost'.[8] In the West

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1. V.L.
2. L.G.L.C.
3. Sir J.L.
4. J.N.
5. J.E.D.
6. Cf. H.W.L. 1771.
7. A. de la P.D.
8. Ibid.

the snow was heavier and the frost was harder than usual. 'It has done great harm to all sorts of corn and fruits, and there is so little grass that the greatest number of cattle have dyed that ever was known'.[1] At Halifax they had to feed their cattle on chopped and bruised furze.[2] This calamitous effect upon vegetation is also referred to by Evelyn, on 8 May, when he speaks of 'extraordinary great snow and frost nipping the corn
1698/9 and other fruits.'[3] The next two winters made up for it a little
1699/1700 as being wet but not cold;[4] and March, 1699/1700 is described as like April, 'for warmth and mildness'.[5] It was also in January,
1700/1 1700/1, although on the 4th, and on the 19th, there was snow and frost.[6] On 1 February, in a journey to London, it is stated that the travellers 'had good weather and good roads, never better at this time of year'.[7] But the period was not without its cold patches. The Earl of Chesterfield writes from Bletby on 29
1702 April, 1702 'since my coming hither we have had many hard frosts and north winds which have blasted most of my young peach trees'[8]; and at the end of the year on 5 December Lady Gardiner informed Sir John Verney, 'The weather is very sarching & cold & keeps me in Complaining condition, bot old age can ill Incounter the effects of it'.[9] In fact, however, a season of quiet winters

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1. Ibid.
2. Ibid.
3. J.E.D.
4. Ibid.
5. Ibid.
6. Ibid.
7. N.P.
8. Hist. M.S. Com. 23. III.
9. V.L.

seems to have set in. There were, of course, instances of
1704 frosty weather such as that in December, 1704 which 'will clear the London air and preserve health'[1], or again, occasional
1708 'flights'[2] of snow, and on 25-6 April, 1708, there were 'unseasonable frosts' which 'blasted the tender young leaves'[3]; but that was all. The middle-aged of the reign of Queen Anne would say, 'Where are our old winters'?

1708/9 In October, 1708, frosts began which practically continued until the spring.[4] On Christmas Day it froze very hard, and shortly after there fell a remarkably deep snow.[5] The coldest day was 30 December;[6] and after that the Thames was frozen over at Oxford.[7] Another very cold day was 3 January, 1708/9, when the temperature was probably zero.[8] A week later, on the 10th, Lord Fermauagh wrote to a friend 'The five miles betwixt me and Wadsdon [waddesdon] not being beaten I dare not venture throw the deep snow and frost.'[9] A curious feature of the winter was the distribution of the snow. At the end of January in Cumberland there was no excessive cold and little or no snow, while at Stainmore, Westmoreland, the snow was of considerable depth;[10] and on 10 March in Buckinghamshire it was still very cold and there was 'a big snow'.[11]

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1. Hist. M.S. Com. 23. III.
2. Morton.
3. Phil. Trans. 1734.
4. W.H.R.C.
5. Brit. C.
6. Phil. Trans IV.
7. J.J.M.
8. A.R.
9. V.L.
10. Phil. Trans. IV.
11. V.L.

1710 The autumn of 1710 was a trying one. On 2 October, there 'was a cruel hard frost and ice'; and, says Swift, 'six days ago I was dying with heat.'[1] On 13 November, after rainy weather, it had 'grown cold and frosty'[2]; and yet, on 27 December, it was a very 'open winter'[3]. There were a few snowy days at

1710/1 the end of January and in February, 1710/1; On the 7th, of the latter Elizabeth Coke wrote to the R. Hon. Thomas Coke, from Melbourne, 'we are at this time covered with the deepest snow we have had yet, but not the coldest, which gives me hope winter will end with it;'[4] and by the 23rd, it 'is gone every bit except the remainder of some great balls made by the boys.'[5]

1711/12 Something similar might be said of 1711-12. Around Christmas 1711, there was frost, and on Christmas Day, it snowed 'prodigiously' and froze.[6] On the 27th, in Buckinghamshire it is reported to be 'extream cold here with abundance of snow'[7]; but by the end of the month, the frost broke, and Swift says 'it is very slobbery'[8]. It was frosty again in February, 1711/12, but by the end of March, it was 'ugly nasty weather'. Swift

1712 had to wait till the following December before he could record snow. On the 18th, he writes 'we have terrible snowy slobbery weather', in London, and the next day, 'we are full of snow and

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1. J.S.J.S.
2. Ibid.
3. Ibid.
4. Hist. M.S. Com. 23. III.
5. J.S. J.S.
6. Ibid.
7. V.L.
8. J.S.J.S.

dabbling.'[1] This frost eivdently continued, more or less, for
1712/3 in January, there was ice at Cambridge, on which John Byrom fell and nearly 'endangered' his left eye.[2] By the 5th, 'our frost is broken but it is bloody cold',[3] and it remained so unpleasant, that, on the 13th, Swift remarks, 'our weather is very bad and
1713 slobbery and I shall spoil my new hat'.[4] The May of 1713 must have been exceptionally cold as Robert Molesworth makes complaint and says 'I wish for Yorkshire fires as much as in winter.'[5]
1714/5 Possibly Lord Fermanagh had a similar wish on 1 January, 1714/5 when he said 'our wayes are so full of snow there is no goeing to see our nighbours, nor they to come to us, which makes us lonely this Christmas'. Margaret Adams, writing to him on the same day complains, 'the weather is set in extreme sharp, and 'tis scarce possible to keep my Mother warm by the fire side.'[6]

1715/6 The next really severe winter began on 5 December, 1715, and lasted for ten weeks.[7] The coldest day, is said to have been 7 January, 1715/6, but it was not as cold as the coldest day in 1708.[8] 'A fair, with booths and printing presses, was erected on the Thames.'[9] A souveneir in print from the press was issued on 2 January. It contained an interesting picture showing, the roasting of an ox and of a shoulder of mutton, a game of nine-pins, boys sliding and the position of the press, of 'a musich'

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1. Ibid.
2. J.B.R.
3. J.S.J.S.
4. Ibid.
5. Hist. M.SS. Com. 55.
6. V.L.
7. J.J.M.
8. Phil. Trans. 1734.
9. Nature. 1930.

booth, and of stalls of giner-bread-makers and goldsmiths.

The following verses were attached:-

'Behold the Liquid Thames now frozen o're
    That lately Ships of mighty Burthen bore.
The Watermen for want of Rowing-boats,
Make use of Booths to get their Price and Groats.
Here you may Print you Name, tho' cannot write,
'Cause num'd with Cold; 'tis done with great delight,
Then lay it by, that Ages yet to come, [1]
May see what Things upon the Ice were done'.

On the 7th Lord Fermaugh was informed by James Baker 'we have all passed the Thames from Westminster to Lambeth on foot, it is soe cold that I can scarce hold my Pen.'[2] On the 14th, 'there was an uncommonly high spring tide which raised the ice fourteen feet without interrupting the progress of the fair'.[3] The intense cold continued and on the 30th, Lady Cave wrote 'The season has long made it unsociable in these parts ... with sharp frost and piercing winds and with a floud that all most Drowns oure Parish. We have all found the effect of the weather by extream bad colds'. Nor is she alone in her complaints for her husband, Sir Thomas Cave, wrote to his father-in-law on 11 February 'I'm sorry You are so afflicted with the Gout, this sharp weather must aggravate the pains, Indeed I was oblig'd to a complaint of a settled Cold across my Corpusculam.'[4] Thomas Heaver, the antiquary, also describes the frost of the same month, at Oxford. 'This hath been such a severe Winter that the

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1. Quoted by G.H.
2. V.L.
3. _Nature_, 1930.
4. V.L.

like hath not been known since the year 1683[4]. In some respects it exceeded that. For tho' the Frost did not last as long as it did at yt time, yet there was a much greater and deeper Snow. Indeed it was the biggest Snow yt ever I knew: as it was also ye severest Frost yt ever I have been sensible of. Indeed it began to thaw two or three times, but then the Frost soon began again with more violence & there was with all a very sharp & cold & High Wind for some Days. When it first began to thaw & afterwards to freeze again, and it made the ways extreme slippery & dangerous & divers bad accidents happen'd thereupon.[1.] And all this led up to an excessive drought which lasted from February to August.[2.]'

1720/1 The second and third months of 1720/1 must be classified as being a cold period, though, possibly, not of an extraordinary character. There was little reason to expect anything severe in the way of winter at the end of 1720, and during the greater part of January, 1720/1. In Lancashire, it was 'a very green winter .... and a little or no frost or snow till ye end of January.[3.]' But by the 30th, a change came and there was a hard frost and snow which continued more or less steadily through the whole of February. It is to this that Lady Irwin refers on the 11th, when she says 'the weather is very cold and seems to be set in for a frost; 'tis very sickly'.[4.] At the end of that

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1. T.H.D.
2. Nature, 1930.
3. L.G.L.C.
4. Hist. M.SS. Com. 42.

month, very cold N.E. and occasionally S.E. winds came, without any snow, and as they lasted a fortnight they did considerable harm to vegetation;[1] and on 5 March Lady Fermaugh writes that 'the violently sharp weather' has made her really ill.[2] The unseasonable cold continued into May, when on the 16th Lord Molesworth wrote from London, 'I write this by a fireside, the north east wind making it near as cold as at Christmas.[3]'

Then followed another run of mild winters, until January,
1728/9 1728/9. On the 7th, Viscount Percival writes 'all agreed never to have felt so very cold a day, so great that I acquainted the Prince, [Frederic, Prince of Wales], the small birds dropped down dead in our garden at Charlton, which is true.[4]' On Tuesday, 4 February, in the neighbourhood of Birmingham, 'it froze very hard' and the snow 'fell very thick.[5]' Riding was difficult, and on the 6th, John Byron had his horse prepared 'and all his shoes turned up.[6]' On the 12th, however, a change came, and the back of the winter was broken, although on 12 March 'it snows much, by fits, today.[7]' One reference shows that this experience
1730/1 continued, and at the end of January, 1730/1, there was truly wintry weather. Lord Hervey and Mr. Pulteney fought a duel on 'the most snowy day we have had, stripped to their shirts, and

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1. Phil. Trans. 1734.
2. V.L.
3. Hist. M.SS. Com. 55.
4. Visc. P.D.
5. J.B.R.
6. Ibid.
7. Ibid.

went to it in the Park.'[1] The weather remained harsh for on 4 February 'The King and Queen are both ill of severe colds having walked this severe weather in the frost and snow, which, before it affected their Majesties, had made all their attendants sick.'[2] The Royal Family seem to have been equally important in November, 1732 when it was said on the 18th, 'The weather has been excessive cold here [London] of late; the King and Royal family hunted, last Wednesday, a hind in Richmond Park, but suffered so much that day from the cold weather, that it is the last day of their hunting this year.'[3] Once again a
1732 very mild reason set in for about five years, a fact which is shown by the isolated remark of Viscount Percival, on Christmas
1738 Day, 1738. He writes that on that day there was 'a severe frost which I know not to have happened for very many years past.'[4]

It was, however, as if the elements were brewing a mighty
1739/40 effort, and that came in 1739-40. It began on Christmas Day,[5] and 'was a season of the greatest distress to the poor, in consequence of a frost, which .... continued till the end of February. Its intenseness and bad effects exceeded all others ever remembered. The river Thames was so wholly frozen that great numbers of people dwelt upon it in tents, and a variety

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1. Hist. M.SS. Com. 42.
2. Ibid.
3. Ibid.
4. Visc. P.D.
5. G.H.

of booths were erected on it for entertainments. A few days after it began there arose a very high wind which did considerable damage to the shipping that happened at that time to be numerous. Several vessels laden with corn, others with coal etc., were sunk by the ice; many had holes beat in their sides by falling on their anchors: several lighters and boats were confined under the ice: in short, a more dismal scene presented itself on the river Thames, than had ever been beheld by the oldest man living. The damage done, between the Medway and London bridge, was computed at 100,000 l., besides many persons who lost their lives from the severity of the weather. The watermen and fishermen were entirely disabled from earning their livelihood, as were the lower class of labourers, whose employment is in the open air: and the calamity was rendered more severe by coals and other necessaries being advanced in their price in proportion to the intenseness and continuance of the frost.[1]' Viscount Percival calls attention to this rise in the price of coals, and says, that they reached a very high price in January.[2] On the 21st, there was 'a partial break up of the ice', and The Universal Spectator, issued on the 26th, says, 'the inhabitants of the west prospect of the Bridge were presented with a very odd scene, for, on the opening of their windows, there appeared underneath on the river a parcel of booths, shops

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1. Thornton, Cf. Hist. M.SS. Com. 38.
2. Visc. P.D.

and huts of different forms, but without any inhabitants .... Here stood a booth with trinkets, here a hut with a Dram of Old Gold, in another place a skittle frame and pins, and in a fourth, "The Noble Art and Mystery of Printing."'[1] The fact was 'the ice had become broken into large sheets, upon which the temporary structures remained intact. The report adds that the strange scene could be viewed without horror, no lives having been lost; but it was only with great difficulty that the most valuable effects were recovered from the floes. The temperature, however, again fell, and the detached masses, rocking against one another, froze together in a confusion of hummocks. The battering of the ice-floes upon the starlings of the Bridge caused damage, which The Daily Post, [issue 4 Feb. 1739/40], estimated, when the ice had finally broken up, to be likely to cost several thousand pounds.'[2] It was, indeed, a remarkable winter, and as one writer points out, 'unfortunate to have so hard a winter at the beginning of the war.'[3] Between 1 January and 5 February, the thermometer seldom reached 32° Fah.; and throughout the period, the cold was so intense, that hens, ducks, and even cattle in there stalls died of it; crows and other birds fell to the ground frozen in their flight and massive trees were split asunder.[4] All the lakes in England were frozen;

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1. Quoted by G.H.
2. G.H.
3. Hist. M.SS. Com. 38. p. 254.
4. W.H.R.C.

and, perhaps, one class, which suffered agonies more than another, was that of the unhappy post boys and postillions, who, in some cases were benumbed in their saddles.[1] Of the late spring that resulted, Gibbert White writes, 'I well remember that after the very severe spring ..... summer birds of passage were very scarce'[2]; and this is not surprising, as he points out, that 'cold north east winds continued to blow on through April and May'[3]; and he might have added, that 'there was a frost' as late as 29 June, 'followed by an untoward summer'[4]. What is very remarkable is, that White states that that summer partridges were 'in vast plenty'[5]. But that is about the only good thing that can be said in favour of the year, 1740.

Those who had suffered in this terrible spring must have viewed with apprehension any renewal of cold. On 26 October, the weather was very sharp[6]; but nothing came of it. And al-
1741 though the spring was cold and late in 1741,[7] it was nothing out of the common. Nor did the great snow in Derbyshire, in
1742/3 February, 1742/3, have any lasting or wide-spread effects.[8] Neither did the wintry weather on Good Friday, 1 April, continue, though John Wesley must have had a most uncomfortable time, 'the north wind being unusually high drove the sleet in our

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1. H.S.
2. G.W. 1. VII.
3. Ibid. 1. VIII.
4. Watson.
5. G.W. 1. VII.
6. Visc. P.D.
7. W.H.R.C.
8. Reg. Eyam.

face, which froze as it fell, and cased us over, presently we could very hardly stand'.[1] There was a late bout of frost in 1743/4, when it was very cold at York, on 27 and 28 January,[2] and, when on 4 April, near Launceston, 'the hills were covered with snow';[3] and the same thing was observed, as late as the 25th, on the hills of Wales.[4] Certainly there was an unpleasant

1744/5 week in Yorkshire, in 1744/5, between 18 and 23 February, when Wesley had a very rough time of it. He met the snow first at Doncaster. Four days later, on his way to Boroughbridge, there was 'so much snow that we could only go on slowly'; and the next day, towards Newcastle, the 'snows were deeper which made the causeways in many places impassable ..... likewise the hard frost, succeeding the thaw, had made the ground like glass .... The snow filling up and covering all the roads we were at a loss how to proceed.'[5] Never, he says, had he had a journey like this before, 'owing to wind and hail and rain and ice and snow, driving sleet, and piercing cold'.[6] But one week of such personal discomfort, horrible though it was, does not make a 'severe winter', any more than George Kenyon's discomfort on 5 January, 1745/6, when the forces of Bonnie Prince Charlie, returning northward through Lancashire forced him and his wife into Wales where 'the roads have been so bad and the weather so severe';[7] or Wesley's experience at Aldridge Heath on the

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1. J.W.J.
2. J.B.R.
3. J.W.J.
4. Ibid.
5. Ibid.
6. Ibid.
7. Hist. M.SS. Com. 35.

1745/6 20th, when the snow 'crusted us over from head to foot', or again on Tuesday, the 25th, at Keighley, when he found 'the snow so deep' that he 'could not go through the Vales.[1]'

1746/7 The next year, 1746/7, may be regarded as approaching the winter of the severe type; and again Wesley serves as an example of what our forebears had to endure. On Tuesday, 17 January, he was trying to reach Grantham. 'It was hard work to get forward for the frost would not bear or break: and the untracked snow covering all the roads .... we were met in the midst of an open field with so violent a storm of rain and hail as we had not had before; it drove through our coats great and small, boots and everything, and yet froze as it fell, even upon our eyebrows, so that we had scarce either strength or motion left, when we came into our inn at Stilton.[2]' Notwithstanding all their troubles, they set out again. 'We took the advantage of a fair blast to make the best of our way to Stamford Heath; but here a new difficulty arose, from the snow lying in large drifts, sometimes horse and man were well nigh swallowed up[3]'. After a night's rest, however, Wesley determined to push on. His courage was prodigious. His servant came and said "Sir, there is no travelling today: such a quantity of snow has fallen in the night that the roads are quite filled up." Wesley replied "At least we can walk twenty miles a day with

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1. J.W.J.
2. Ibid.
3. Ibid.

our horses in our hands." 'So, in the name God we set out. The north east wind was piercing as a sword, and had driven the snow into such uneven heaps, that the main road was not passable: however, we kept on, on foot and on horseback, till we came to the White Lion at Grantham.'[1] How thankful they must have been, and how exhausted, though there is never a word of that. He must, have been thankful, too, the next morning, when he found, 'the frost was not so sharp'. But this winter hung on for sometime, and Wesley records, as late as 24 March, that 'the rough mountains', near Newcastle, 'were still white with snow'.[2]

At the end of the year, 1747, on 1 December, Wesley had a struggle across Salisbury Plain. 'Our horses' he says 'reeled to and fro and [ had] much ado to keep their feet. The snow likewise drove so vehemently in our faces ... that it was hard to go forward.'[3] The thaw followed immediately on this occasion, but 'the melting snow' on the 3rd, made it very difficult going to Bristol. Nor were his wintry hardships over for that season,
1747/8 for on Wednesday, 17 February, 1747/8, near Abergavenny, he records that, there was 'no path to be seen' because of the snow, which 'had so entirely covered the roads that our guide himself mistook the way more than once.' Even Wesley had, sometimes, to surrender to the forces of nature, for on the 22nd, he writes, 'a sharp clear frost, we had waited four days in

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1. Ibid.
2. Ibid.
3. Ibid.

hopes the snow would melt, fearing the drifts of it would be deep. It snowed again from midnight till morning'.[1] John Byron also suffered, this winter, while on his travels, and like Wesley had to battle against the elements. On 24 February, at Stamford, 'it snowed and was very cold';[2] while on 8 March, in riding from Cambridge to London, he had 'a bad afternoon of snowy rain'; and on the 19th, while still in London, says, 'I write to let you know that the weather is desperate cold', and it remained so till 28 April.[3]

1751/2 The record of snow storm, which escaped the diarist and letter-writer has been preserved by the Rev. Richard Horne in the Registers of Marshe, Yorkshire. 'There fell' [on 20-1 January, 1751/2] 'the greatest snow that ever was known in the Memory of man; it snowed for 3 Days; some little, but the greater Quantity fell 2 Days, viz: Monday and Tuesday: and some little for 4 Days following. All the roads were stop'd for 4 or 5 Days and men were obliged to go with Spades, etc., to cut the Roads both to Richmond and Reeth; but it turn'd to a gentle thaw the following week and People got to the Markets, I computed the snow too have been 1 yard deep if it had fallen level without wind.'[4]

1756 Wesley had many a miserable experience from wind and hail, but none like those from the snow of 1747 until the March of 1756.

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1. Ibid.
2. J.B.R.
3. Ibid.
4. Quoted in Y.P. 24. 3. 32.

On the 22nd, he was approaching Builth, when 'it snowed hard behind us and on both sides, but not at all where we were.' But he was counting his chickens before they were hatched. On the next morning, Tuesday, 'when we took horse [from Builth], there was nothing to be seen but a waste of white, the snow covered both hills and vales. As we could see no path, it was not without much difficulty, as well as danger that we went on. But between seven and eight the sun broke out, and the snow began to melt. So we thought all our difficulty was over, till, about nine, the snow fell faster than ever. In an hour it changed into hail, which as we rode over the mountains drove violently into our faces. About twelve this turned into rain, followed by an impetuous wind'. But even now his troubles were not over, for the thaw ceased in the night; and they had great difficulty in reaching Taunabull, 'the frost being exceeding sharp and much ice on the road.[1]'

Once more there was a respite from these snowstorms, until
1759/60 22 November, 1759. On that day, Wesley set out to St. Albans, it being 'one of the coldest mornings I ever remember ... the roads were all covered with snow.' And at Sundon 'the snow lay deeper and deeper'.[2] He little knew that it was the beginning of a severe cold snap, and that the Thames was frozen at Oxford,[3] and that, on 14 January, 1760, Horace Walpole should make his, now, famous remark, 'How do you contrive to exist on you mountain

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1. J.W.J.
2. Ibid.
3. J.J.M.

in this such season? Sure you must have become a snow-ball! As I was not in England in forty one, I had no notion of such cold. The streets are abandoned: nothing appears in them: the Thames is almost as solid .... If I am begin to freeze I shall be frozen through in a moment. I am amazed with such weather'.[1] It did not, however, last longer than February, when all disappeared in an astounding tempest.

1761 Wesley must have feared a renewal of this kind of winter in January, 1761, when, at Bury St. Edmunds, the weather became very severe; and, on his way to Norwich, on the 17th, 'I never before felt so piercing a wind ... to think of looking up was a vain thing; I knew not whether I should not lose one of my eyes'.[2] If this wind was really more piercing than he had already encountered it must indeed have been terrific. At any rate he had the consolation, later, of finding that this year was not to rival its predecessor. Nor was 1762 destined to be a cold year. Storms there were in plenty, but very little frost or snow.

1762/3 On Christmas Day, 1762, a most intense frost set in with a N.E. wind, and continued with very little intermission until 29 January, 1763. On 31 December, tests, as to the intense cold, were made, and a glass of water, on a table in the open air, froze in six minutes: a glass of port in less than two hours: and a glass of brandy in six.[3] By 2 January, the Thames

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1. H.W.L.
2. J.W.J.
3. ? Nature 1930.

was frozen over at Richmond. Below London bridge there were many accidents to Shipping, cables were cut by the ice and vessels were driven ashore. One was driven against the Bridge and her bow-sprit beat down upwards of 20 feet of the new 'balustre'. Further damage was also done. Owing to the ice, all the arches of the Bridge were blocked, 'with the exception of the double one, through which the steam passed with such prodigious force that the bed of the river was ... torn up, and the foundation of the piers were exposed. It cost the Bridge sevenues £6,800 to make good the damage.'[1] Elizabeth Ingram wrote on 3 January to the Dowager Viscountess Irwin, 'Tomorrow a lady and myself are to go on Westminster Bridge to see the ice floating in the river. It is the fashion to go to see it. By tomorrow it will be quite over.'[2] The river Severn was also frozen, and the thickness of the ice was estimated at 6 feet. All inland navigation was stopped, with the result that prices were very high, except those for meat, which were low, because the cattle were dying in the fields, and great numbers were daily driven into London, for sheer want of fodder. Several persons were frozen to death. A new terror was added to all the other miseries. Innumerable fires broke out, and their danger and their extent were enormously increased by the water being frozen in the mains.[3] Walpole writes, on 28 January,

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1. G.H.
2. Hist. M.SS. Com. 55.
3. A.R.

'For this month we have had a most severe frost which kills everybody else and cures me. In short I am so much better since this cold weather set in, that it has almost persuaded me that my complaint was nervous and not gouty'.[1] This being the case, presumably, Wapole, unlike the rest of the nation, did not rejoice when, on 29 January, the long frost broke up with a gentle thaw followed by heavy rains.[2]

For months and months there seems to have been perpetual
1765 rains, when suddenly, for a moment, on 11 March, 1765, there was a change to cold, and on that day the whole of England experienced a great snow storm, in which many lives were lost.[3] But the rest of the year was mainly wet, until the early days of
1766. 1766. On 14 January, of that year, Wesley found the roads in Suffolk very difficult as they were so frozen.[4] The great snowstorm of this year was on 12 February, and mainly in the Midlands. The county of Nottingham suffered considerably, many sheep were buried, and the lumbering coaches of that period were much delayed. A contemporary account states that there were drifts six to ten yards deep; but this seems almost too incredible.[5] In Bedfordshire, particularly at Woburn Abbey, on the next day, the rain froze on the trees and, with the weight of the ice, bore off the branches. This also happened on the 14th, in Gloucestershire. A contemporary account says, 'after 30 hours small drizzling rain, which froze as fast as it fell our trees

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1. H.W.L.
2. A.R.
3. Ibid.
4. J.W.J.
5. A.R.

are so loaded with ice that near 150 trees in the park ... at Guiting are torn almost to pieces; and a great number of fir trees of near 50 years growth are broken off 15 or 18 feet ... a poor wood pigeon left all the feathers of its tail frozen to the branch on which it roosted.' In the parish of Hawling alone, 300 waggon loads of broken branches were gathered. At Birdlip a peacock was found frozen to a branch, the branch broke and the peacock was found dying 'the ice congealed to its tail weighing nearly 100 lb.'.[1] The first seventeen days of March were marvellous, 'the sun shining as in May';[2] but on the 18th, the winter started again. The wind was a piercing north-easter, 'and the two following days at Cheltenham were 'scarcely supportable'.[3] On the way to Burton, on Thursday, the 20th, Wesley says, 'It was as much as we could do to bear the cold before sunrise.'[4] And at Nottingham, on the 23rd, he 'had thoughts of preaching in the market-place, but the snow which feel in the night made it impracticable'.[5] When April came the sun came, too, but the wind remained cold.[6]

The end of 1766 was uncommonly mild;[7] and, although, on
1767 1 January, 1767, there was a tempest, there was no sign of winter until, 'In ye night between Jan. ye 10th and 11th there happened the greatest fall of snow I ever remember; the snow

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1. Ibid.
2. J.W.J.
3. Ibid.
4. Ibid.
5. Ibid.
6. Ibid.
7. A.R.

was so deep, I could not go to church, Jan. the 11th, being Sunday, an accident that never happened to me before in the course of my ministry, and I am now in the forty-eighte of it.[1]' The Rev. Lawrence Sterne writing to his patron, Lord Fanconberg, gives a more picturesque account of this winter. On 9 January, he says, from London 'when we got up yesterday morning the streets were four inches deep in snow; it has set in now with the most intense cold. I could scarce lay in bed for it; and the morning more snow again, though the roads after all, are extremely good near town and I suppose everywhere else. The snow has been very deep in Kent.[2]' On the 16th, he adds, 'scarce any talk but about the damage done over the Kingdom by this cruel storm. It began yesterday morning to thaw gently ... It was so intensely cold on Sunday that there were few either at the church or court .... The streets are dirtier than in the town of Coxwould [ Coxwold, his parish] , for they are up to the knees except on the trotton.[3]' This really was a true winter.[4] The cold was so extreme, that on 19 January, it was recorded that flocks of starved larks settled in Horsham market, and the birds were picked up by hand;[5] and a German silk-tail was shot during this very severe weather.[6] The depth of snow in Wales was unprecedented, - it is said to have been, between the mountains -

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1. Reg. Asham, Westmoreland.
2. Hist. M.SS. Com. 55.
3. Ibid.
4. G.H.
5. A.R.
6. G.W. 1.XII.

forty fathoms deep. Between Salisbury and Blandford, such was the depth of the snow and the violence of the storm, three lives were lost.[1] Well might Walpole write, on 21 January, 'we have had a most dreadful winter, the coldest I ever remember .... Last year was bitter .... I hope this which is scarce a month old will be of much shorter duration'.[2] February brought rain, but, on 25 March, Wesley found, near Keswick, the road was covered with snow;[3] and as late as 12 May, Walpole writes 'we have no spring. They say it is the same everywhere.'[4]

The year, 1767, went out very much as it had come in - bitterly cold. The harvest had been checked, in October, with 'high frosty winds';[5] nevertheless, as late as the 23rd, there were house martins in London, and on the 29th, there were swallows flying about the Radcliffe Infirmary, at Oxford.[6] Floods and fogs followed in November,[7] and, on 21 December, a severe frost set in with an E.S.E. wind. Almost immediately the navigation of the Thames was stopped, and the postal system
1767/8 throughout the Kingdom was much retarded.[8] Gilbert White records that between 27 and 30 December, 'there were considerable falls of snow which lay deep and uniform on the ground without any

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1. A.R.
2. H.W.L.
3. J.W.J.
4. H.W.L.
5. A.R.
6. G.W. 1.XII.
7. A.R. _cf_. 1807.
8. _Ibid_.

drifting, wrapping up the more humble vegetation in perfect security.'[1] At the end of the month, even in the Pump Room at Bath, the temperature was 16° below freezing point.[2] In London the distress of the poor was appalling. Owing to the Thames being frost-bound, fuel became very expensive. There was also much loss of life, as many craft were jammed and wrecked by the ice. Actually in the streets, such was the Arctic cold, some persons fell dead. But the trouble was by no means confined to London and its immediate neighbourhood. All over the Kingdom the snow was incredibly deep, cattle and sheep perished in all directions. 'Even the high roads were rendered almost impassable, and the stage-coachmen and the drivers ....... performed their respective journies with the greatest difficulties and at the hazard of their lives'.[3] Between 1 and 4 January, there was more snow,[4] and, on the latter day, a watchman was found frozen to death in St. George's Fields.[5] From the 5th, however, 'the air became entirely clear, and the heat of the sun about noon had a considerable influence in sheltered situations ... The frost ... the small time it lasted' was 'the most severe that we had then known for many years, and was remarkably injurious to evergreens .... the snow on the ... evergreens was melted very day and frozen intensely every night,

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1. G.W. 1. XI.
2. A.R.
3. Thornton.
4. G.W. 1.XI.
5. A.R.

so that' they 'looked ... as if they had been burnt in the fire.'[1] As late as the 7th, (the wind N.E.) in a shut parlour, without a fire, the temperature was not above $17\frac{1}{2}^{\circ}$ Fah. On the next day, however, the cocks 'which had been silent, began to sound their clarions, and crows to clamour, as prognostic of milder weather; and, moreover, moles began to heave and work, and a manifest thaw took place.'[2] This was clear enough in London on the 9th, when, 'The river below bridge bore all the appearance of a general wreck: ships and boats ... lying in a very confused manner, some on shore, and others sunk or overset by the ice. A fishing boat was discovered at Deptford Creek jammed in by the ice, and all people in it frozen to death, one of whom, a youth about seventeen, was found sitting erect, as if alive.'[3] By the 14th, 'the snow was entirely gone'[4], 'as if by enchantment.'[5] And so Walpole says 'we have had most dreadful frost and snow, but they lasted not quite three weeks.'[6] 'Dreadful' those days were, for 'at Bruton nr. Wells, 30 persons are said to have lost their lives in the late great snows', and 'a gentleman on horseback was dug out of the snow on the road near the Mendip Hills, the man and the horse being froze to death.'[7] On 9 February, there was snow at Leeds for twenty four hours,[8] and on 20 March, 'the north wind', according to Wesley,

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1. G.W. 1.LXI.
2. *Ibid.*
3. Thornton.
4. G.W. 1. LXI.
5. A.R.
6. H.W.L.
7. A.R.
8. *Ibid.*

'cut like a razor.[1]' But the end had come to a perilous winter long before this date.

1769 Similar severity was not experienced in 1769 nor in 1770.
1770
1771 But intense cold set in during the month of January, 1771, and continued to the middle of March. The cold, on 10 February, is recorded as very great, and the next day the thermometer was at zero, which was colder than it had been for nine years. A week later a boy was found frozen to death in Holborn.[2] The frost began to break on 12 March, when, at Tewkesbury, there was rain.[3] Troubles began again, however, on the 24th, when there was 'a tempest of snow', which was, says Walpole 'the fourth winter we have had since Christmas.[4]' Again he writes on, Thursday, 9 May, 'we have had five winters since Christmas, and not an appearance of spring till within three days .... in England, we, every year, give ourselves airs of being disappointed, though it is so very seldom that we have any fine weather.[5]'

1772 Walpole was destined to be disappointed again in 1772, for on 16 January, at Luton, 'The snow lay so deep on the road that it was not without difficulty and some danger' that Wesley 'at last reached the town ... the frost was exceeding sharp'. And it was the same, the next day, on the way to Hertford, 'the

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1. J.W.J.
2. A.R.
3. J.W.J.
4. H.W.L.
5. Ibid.

usual way being blocked up with snow', and so, he was 'obliged to take a bye road.'[1] On the 31st, heavy snow was reported in Derbyshire;[2] and as late as 14 March, at Worcester, 'the frost was exceeding sharp, as it was last year, at this time .... the north weast wind uncommonly sharp', and two days later, 'as much snow had fallen it was with difficulty' that Wesley 'reached Alcester' where 'it lay mid-leg deep in all the streets.'[3] And then the change came with rain and thunder, and the winter had gone.

The following winter was mainly mild except for an un-
1773 usually bad snow storm in Flintshire on 2 February, 1773, during
1774 which men, women and children perished.[4] In 1774, there was snow in January and February, but it was more notorious for its melting than for its cold. Then came another bad period in
1776 ere 1776. At the end of the first week in January, there was snow, frost and sleet.[5] By the 12th, there were great snow drifts, in Hampshire, said to be over the tops of gates.[6] The Thames was sufficiently frozen for a man safely to cross 'on a butcher's tray, upon which feat depended wagers of £14,000.'[7] On the 14th, Gilbert White writes, 'never before or since [have I] encountered such rugged Siberian weather. Many of the narrow roads were now filled above the tops of the hedges. Waggons and coaches

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1. J.W.J.
2. Reg. Monyash.
3. J.W.J.
4. A.R.
5. G.W. 1. LXII.
6. Ibid.
7. J.J.M.

stopped.[1]' Wesley records how the roads were impassable, and 'for some days before the frost broke up, it was observed by means of the thermometer that the cold was several degrees more intense than that in the year 1741' [? 1740].[2] The sun shone for the first time since the frost began, on the 20th, but it was Nature's sport, because, two days later, London was 'bedded deep in snow ... the carriages ran about without the least noise'; and on the 27th, much snow fell all day and in the evening the frost became very intense. So 'intense', in fact, that on the 31st, the temperature was exactly zero.[3] It is not surprising, therefore, that Walpole writes, 'I am almost afraid to frighten you with an account of our winter, but then it is such a winter. I was with you [Sir T. Mann] at Florence in 1741, and those ever since,[4] have been springs and, sometimes, summers. This was made for the North Pole, has lasted three weeks and grows every day worse and worse. It caught me .... in Bedfordshire ... gave me gout in both hands,[5] on which, I set out for London, through mountains of snow and quarries of ice.[6]' Every winter must have its end, and this 'Siberian winter' had gone on 3 February when 'swarms of insects were frisking.[7]'

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1. G.W. 1.LXII.
2. J.W.J. <u>cf.</u> Univ. Mag. which says it was $2\frac{1}{2}^{\circ}$ lower than 29 Jan. 1740.
3. G.W. 1.LXII.
4. <u>Vide supra</u>.
5. <u>Vide supra</u> for the reverse.
6. H.W.L.
7. G.W. 1.LXII.

1777-81 The years 1777 to 1781 were nasty enough and typical enough of the varieties of the English climate; but cannot be said to be remarkable for severe cold. Nor would that apply to

1782 1782 except very late in the season. In London during the evening of 21 March, 'it snowed' for some hours.[1] On the next day, at Worcester, 'about two in the morning', Wesley says, 'we had such a storm as <u>I never remember</u>[2] ..... so deep a snow fell in the night that we were afraid the roads would be impassable[3]'. The weather evidently continued cold, for on 1 April, on riding to Chapel-en-le-Frith, 'such a journey I have seldom had unless in the middle of January. Wind, snow, and rain we had in abundance, and roads almost impassable.[4]' There was snow, again, on the 25th; and, two days later, near Keighley, 'the north east wind was scarce supportable, the frost being exceeding sharp and all the mountains [<u>sic</u>] covered with snow[5]'. The weather was, intruth, to the end of the month uncommonly severe not only in England but all over Europe.[6]

It is not always easy to extract the truth from what contemporaries say concerning the weather. Sometimes their lucubrations give the impression of great severity, and it is the truth; sometimes they undoubtedly exaggerate; and sometimes, it was unpleasant for the moment, but their statements give the impression of a long extreme cold, which was neither so long,

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1. H.W.L.
2. How often do they all say this year after year?
3. J.W.J.
4. <u>Ibid</u>.
5. <u>Ibid</u>.
6. A.R.

1783 nor so extreme as they had imagined. In 1783 there are few
1784 or no complaints. In the following year, the winter cannot be classed amongst those of the severe type, and yet there were bad days that stood out in the memory of those who bore them. On 19 January, at Bengeworth, Wesley was compelled, by his personal suffering, to record that 'the cold was so intense that it had an affect I never felt before, it made me downright sick', and ten days later, he speaks of it being 'still piercing cold'.[1] It is, however, to be remembered that Wesley was now over eighty years of age, and if elderly gentlemen will ride about in January, they must occasionally expect to feel sick even if the weather is not so 'piercing cold', as they imagine. There must, however, have been many bad and trying days this winter, for on 21 March, Walpole[2] speaks of it as long and severe and records a fall of snow on the 24th. As late as 29 April, he says 'our winter has been doleful .... Of spring there was not a symptom a fortnight ago, though commonly many trees and most shrubs are in full leaf by the end of April.'[3]

1784 That same year 1784, aged as Wesley was, 'he went on undeterred by feeling sick or by anything else. On 7 December, after fighting through a furious storm, he found that 'it soon turned to snow which so covered the road we could scarce get ... to Roberts bridge.' And the next day, the snow was so deep

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1. J.W.J.
2. H.W.L.
3. Ibid.

that with two pair of horses, he could only travel fifteen miles in five hours.[1] How different was Horace Walpole, who kept himself snug and warm 'since Boreas and Aeolus and all the demons of the air are let loose. I shall keep myself as warm as I can, and not venture being compounded in the snow.'[2] It was this snow storm that Gilbert White called 'vast', and the frost 'sharp', and points out that on the 10th, in the day time the temperature was half a degree below zero, and in the evening a full degree below.[3] 'The frost' he says 'killed all the furze, most of the ivy and stripped the hollies of all their
1785 leaves.'[4] Between 1 and 3 January, 1785, 'the thaw was confirmed',[5] and, on the 4th, 'most of the streets [in London] were filled with melting snow which often lay ancle deep'.[6] Troubles were not yet over, however, because on 5 March, Walpole writes 'from the beginning of December we have had such a succession of vicissitudes ... as ever I remember; repeated snows, severe frosts ... and assassinating winds. All my hope is from the Almanac which tells me that spring is at hand, yet the month of March, like the fast on the vigil of a saint's festival, is very apt to prepare one by rigour for rejoicing.'[7] There is little doubt that he was right, for on Good Friday, 25 March at Worcester, Wesley says 'a sharper frost I never knew' and, two days later, there was snow at Wednesbury.[8]

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1. J.W.J.
2. H.W.L.
3. G.W. 1.LXIII.
4. Ibid.
5. Ibid.
6. J.W.J.
7. H.W.L.
8. J.W.J.

One cannot but feel sorry for these two elderly men. Wesley was born in 1703, and was now 82 years of age, and Walpole was born in 1717 and was therefore 68. But true sympathy must go out far more to the former not only because of his age, but because of the rigorous, strenuous and self-sacrificing life that he led; whereas Walpole, rather like a dozing cat, was lapped in comfort at Strawberry Hill. Nevertheless he did hate the cold, and it might be said that the least sign of winter frightened him. On 30 October, 1785, he writes, 'the winter is already begun severely: we have had snow twice'. His term 'severely' must be regarded as an exaggeration; but it was not so, when he wrote on 8 January,
1786 [more] 1786, that there had been 'ten days of snow and a severe frost than any of last winter'.[1] He, however, did not adventure into its perils like John Wesley, who, writes on 27 February, that where on his way the snow 'lay so deep it was with much difficulty that we reached Chippenham', or again, on 15 March, when in that beautiful hilly country near Painswick, 'much snow fell in the night and quite blocked up the road .... abundance of snow likewise fell in the afternoon but we pushed through it to Worcester', and from there to Bewdley 'through the snow'.[2] Walpole, without experiment, felt quite content to record the snow and east winds of March, and to state that 'our second winter has been bitter .... our great roads .... almost impassable.'[3] He had

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1. H.W.L.
2. J.W.J.
3. H.W.L.

not, like Wesley, on the 29th, fought his way to Stafford against a wind that 'was piercing cold.'[1] It was an unpleasant year and Walpole might well say 'we have no more spring than we had last year.'[2]

1787/8 The years 1787 and 1788 were more kindly to travellers though there was much rain. In the former year, at the end of March, there was a cold snap; and in the latter, a frost, at Oxford, in January. But there were no complaints from any of the diarists until Wesley is obliged to renew his on 25 November, 1788. The frost (which lasted a month) set in the night before.[3] Wesley, on his way to Dover, experienced a storm, and 'piercing cold'; the next day, their was 'much snow and sleet', two days later, when he reached Margate, it was 'piercing cold and the ground covered with snow'. The climax was reached at Highgate, on 15 December, when he thought 'it was the coldest night that he' ever remembered.[4] The conclusion of the frost on 24 December, was very temporary,[5] and on Tuesday, the thirtieth, it was renewed.[6] The 'extreme severity'[7] of the weather continued into the new year.

1789 The frost of 1789 is amongst the well-known and is really famous. On 5 January, Charles Pelham wrote from London 'our weather still continues as severe as ever .... if possible it

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1. J.W.J.
2. H.W.L.
3. A.R. <u>Cf</u>. Hist. MSS. Com. 43.
4. J.W.J.
5. A.R.
6. J.W.J.
7. <u>Ibid</u>.

froze harder last night than ever and I think bids fair to continue'.[1] By 10 January, the Thames at Irongate to the opposite shore was frozen over; at Shadwell there were several booths on the ice; an ox was roasted[2], and a bear hunt took place.[3] Samuel Collins painted a picture of this 'Frost Fair' in which he shows, amongst many other things a fire on the ice, a one legged-hawker and a woman carrying something on her head for sale.[4] But there was a serious side to this frost. The London water works were connected with the bridge and had been for many years, and the wheels working the system must be kept in motion. To do this, 'it became necessary to pour large quantities of boiling water over them, and every day they [ the persons in charge ] were obliged to use twenty five horses to draw the floating masses of ice away from the wheels. So alarming were the conditions caused by the ice which blocked the Thames between London and Woolwich that the East Indiamen were moved down to Gravesend to ensure safety'.[5] Unpleasant as this year was John Wesley shows that the year 1790 made up for many of these dangers and discomforts, for their were 'four and twenty weeks of fair weather: such a winter as I never saw before'.[6]

1794 It was not until 1794, that another of the real old winters started, on Christmas Eve.[7] By the beginning of the January of

1795 the next year, the frost was very keen, and, in Oxford, lasted

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1. Hist. M.SS. Com. 41.
2. A.R.
3. J.J.M.
4. G.H.
5. Ibid.
6. J.W.J.
7. Cox.

for ten weeks, bringing in its train appalling distress. Everything was expensive; but coal was the chief luxury and reached the unheard of price of £4 a ton.[1] The Severn was frozen over by the 23rd, and a printing press, after the fashion on the Thames, was set up, and a paper distributed to the people on the ice.[2] Like many other rivers, the Aire was frozen for a considerable time;[3] but after 9 February the thaw came, the ice broke up, and there were colossal floods.[4] The Rev. Edward
1796 Wilson, Canon of Windsor records that Christmas Day, 1796, 'was the very coldest day I ever experienced .... The ground was covered with snow, and as it had fallen two days before, the drifts had to be cut away ... our men were so pinched with the severity of the weather as to be fearful that they must give it up, and I find the Thermometer was many degrees lower than ever it was known to be in this country.'[5] Hard frosts were next
1799 experienced in 1799, particularly in the counties of Oxford and Cambridge. In the latter there had been much snow and cutting N.E. winds. On the night of 2 February, an unfortunate woman was buried alive in the snow, and remained so, until discovered a week later. Her sufferings must have been terrible and owing to frost-bite she lost part of her feet, and lingered on to the following 13 July when, mercifully, she died.[6]

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1. J.J.M. Cf. G.V.C.
2. Green.
3. H.S.
4. *Vide*. Ch. V.
5. W.A.S.
6. H.E.D.B.

Concerning nineteenth century snow storms it is possible only to give the shortest description of those that stand out
1805 as particularly severe. On 31 January, 1805 there was a great fear of a prolonged winter for the snow, that day, fell very heavily. The mail coaches in Shropshire failed to get through, and all traffic between Oxford and Cheltenham was seriously impeded by drifts of some ten feet deep. Soon after this there came a rapid thaw, followed, in the Stamfold neighbourhood, on 15 February, by a sharp frost, sufficiently hard to freeze the rivers.[1] This winter cannot be said to have passed completely until the end of April, as on the 28th, there was one of the deepest falls of snow 'ever remembered at this time of year' in Sheffield and some parts of Lancashire.[2] With this final unkind blow the year changed into one of thunderstorms.

1806 On 12 March, 1806 there was a very heavy snow-fall in Kent, so that the Dover Coach was blocked, and as the drifts on Barham Downs were 10 feet deep, the mails had to be got through by a man on horseback.[3] The February and March, of the next
1807 year, were almost equally bad. On 17 February, William Dyott in Staffordshire, says, it was 'the most severe cold day I almost ever felt ... snow on the ground and a very severe frost and hard gale of wind.'[4] This hurricane, accompanied by blinding snow was experienced at Deal, where forty ships were soon missing from their anchorage.[5] The storm was general. The drifts near

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1. A.R.
2. Ibid.
3. Ibid.
4. W.D.D.
5. A.R.

Norwich, were unprecedented; the Ipswich coach was two hours late, and the roads near Romney Marsh were impassable, and when, owing to drifts, 2000 sheep are said to have perished.[1] March brought 'fine weather .... though rather cold for the season.'[2] The end of the year, however, closed as badly as its beginning. There was a tremendous snow-storm at Whitehaven on 20-24 November. It was stated that there had been nothing like it since 1767. On the frist day the snow was 4 feet deep in the streets. On the third day it looked as if there might he starvation for the people, for no single article arrived from the country districts for the Saturday's market. No coach could travel in the neighbourhood, and from Penrith the ways were 'impassable for a horse'. The result was that the mails arrived 23 hours late, brought, by a veritable hero, on foot.[3] It is not surprising that Dyott described conditions in Staffordshire as 'very cold'.[4] For the next week the weather was terrible all over the north from Staffordshire to Northumberland. On Blackstone Edge, the stage coaches, even with six and eight horses, could not proceed for the drifts were as much as 20 feet deep; and on one farm alone in Northumberland 700 sheep perished.[5] Such, however, are the peculiarities of the English climate that Dyott could write a day or two later,

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1. Ibid.
2. W.D.D.
3. A.R.
4. W.D.D.
5. A.R.

'the weather was much less severe'[1]; by the end of the month, the discomforts of fog took the place of those of snow, and by
1808 the opening of 1808 the 'season was mild'[2].

After studying English weather one cannot refrain from thinking that the seasons loved their little jokes and laughed at poor mortal man who never could know from day to day what to expect. 'The good weather'[3], recorded by Dyott, changed in a fortnight into terrific storms; and, on 10 February, 1808, there was a snow-storm, described by a contemporary, as 'the severest experienced for a length of time'. He also states that on the Great North Road, 'it drifted from forty to fifty feet deep', and that at Biggleswade, the Newcastle and other mail coaches, 'were completely buried'. This meant that for a short time the north was cut off from the south. At Bury St. Edmunds a party found themselves for some days confined to the inn where they had been dancing and so passed their time by a succession of balls. Amongst several tragic deaths were those of two shepherds who perished in the snow on New Market Heath.[4] But this was not the last of it for that year, for, on 21 April, 'the snow between Towcester and Daventry was a foot deep', and Dyott says that he 'never saw it snow faster'[5]. By the 25th, the snow was so deep on Stainmore in Westmoreland, that a road

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1. W.D.D.
2. Ibid.
3. Ibid.
4. A.R.
5. W.D.D.

had to be cut through.[1] It must have been with a sigh of relief that Dyott made the entry in May, 'uncommon fine weather after a long and severe winter'.[2]

Just before Christmas, and, indeed up to Boxing Day, 1808, Dyott says 'the weather had been uncommonly severe, snow and extreme hard frost until the morning of the 27th, when a gentle thaw and mild rain came on.'[3] But this was not to last for long.
1809 On 16 and 17 January, 1809, there was snow, followed, on the 19th by a freezing shower from the east.[4] The birds suffered much, for as the rain fell it was converted into ice. Near Maidstone all kinds of birds were taken by hand. One boy is said to have caught 95 larks, 26 rooks, 3 partridges and 2 pheasants.[5] For the next five days there were frequent falls of snow, but a sudden thaw set in, on the 27th, and severe inundations followed.[6]
1810 The middle of January, 1810, was famous for two very sharp frosts. On the 15th, at 11 p.m. there were 21°, and on the 18th, at midnight 26°; both being registered in London.[7] But this frost also came as a great surprise to the inhabitants of Plymouth, who were accustomed to a southern climate. After six weeks of almost incessant rain on the 17th, there were 14° of frost, and the river Tamar, from New Passage was frozen over, so that the boats had to break their way with their oars.[8] There was excessive

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1. A.R.
2. W.D.D.
3. _Ibid._
4. H.E.D.B.
5. A.R.
6. _Vide_ Ch. V.
7. A.R.
8. F.D.

1811 frost in Oxford in 1811;[1] on 7 January, the Thames at London was nearly frozen over, and two men walked on the ice from Battersea bridge to Hungerford stairs.[2] In Staffordshire there was also
1812 much frost and cold.[3] In January, 1812, there was every prospect of a hard winter in London. On the 10th, Farington says 'The ground covered with snow, and the darkness such, in the middle of the day, as scarcely to allow sufficient light to read a newspaper at the window.'[4] But nothing came of it; though there was a hard frost later in the year, on 10 November, and the weather was 'very wintry' on 17 December.[5]

1813-4 An outstanding year for cold, discomfort and misery was that of 1814. This colossal winter, which lasted for thirteen weeks, began on 27 December, 1813,[6] when a most extraordinary fog prevailed in London.[7] By the 28th, the fog was of such a density that the Maidenhead coach missed the road, near Hartford Bridge, and was overturned by which accident Lord Hawarden was seriously injured.[8] Other accidents also occurred.[9] By the 31st, the fog was truly alarming.[10] On 1 January, following on the fog, there was a 'heavier fall of snow than had been within the memory of man'. It snowed incessantly for forty-eight hours, accompanied by a terrible east wind.[11] The Thames was frozen,[12]

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1. J.J.M.
2. A.R.
3. W.D.D.
4. F.D.
5. <u>Ibid</u>.
6. H.S.
7. A.R.
8. <u>Ibid</u>.
9. <u>Vide</u>, Ch. VIII.
10. A.R.
11. H.E.D.B. II.
12. J.J.M.

and a printing press printed

Frostiana
or
A History of the River Thames etc.[1]

London Bridge was much endangered, because 'the movement of the tides ... were greatly restricted by the formation of enormous quantities of ice and the Bridge was subjected to abnormal pressure from the great blocks which lay about it.[2]' On the 9th, there were 28° of frost, and on the 10th, the weather was described as 'the most severely cold weather we have had for many winters past[3]', and on that day there were numerous skaters in the Green Park.[4] On the same day, General Dyott says, that it was 'extremely cold' in Staffordshire, and that 'there had been some little snow'; but the following day there was a great fall and for a week there was hard frost with snow.[5] In London, on the 13th, there were 29° of frost. At Exeter on the 15th, it was said, that during the previous week there was the heaviest snow for forty years. The London mail was thirteen hours late, and to the west the roads were quite impassable, and the mail bags had to be taken forward by horsemen. This was not unaccompanied by danger, as seen by the fact, that near Haldon ?? four soldiers were frozen to death. Near Shrewsbury, during the same week, several militia men were frozen to death on their march from Nottingham; but for this

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1. G.H.
2. Ibid.
3. L. in W.D.
4. H.E.D.B. II.
5. W.D.D.

they, probably had themselves to blame, as they were so intoxicated that they had had to lie down in the snow, and so perished by the roadside. The West suffered considerably. Snow fell at Plymouth to the depth of twenty inches in six hours. Accounts from Gloucester show that, for a fortnight before the 17th, the severity of the frost had not been exceeded for many years. In Dorsetshire it was much the same, the drifts being so deep between Bridport and Dorchester that the coaches had to return to the former.[1] At the same time the Severn was frozen over, and people went to Tewkesbury market across the ice. In Bristol the floating harbour was 'one continued sheet of ice'; and, on the 18th, 'for the first time in the memory of man the skater made his appearance under Bristol bridge'.[2] Further north, masses of ice in the Mersey made it impossible for boats to cross.[3] At Whitehaven, in Cumberland, a water famine was threatened as there was scarcely a pump in the town that was not frozen solid.[4] And this must have happened in many other places. On the 19th, all communication ceased between Huntingdon and Buntingford. At Godmanchester, the drifts were sixteen feet deep. One coach, filled with mail bags, only managed to get through, because it was drawn by ten horses. Four days later it was announced that every approach to Oxford was completely choked up. Some drifts were stated

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1. A.R.
2. H.E.D.B. II.
3. Ibid.
4. Ibid.

to be twenty feet deep, and more than a hundred men were employed in cutting the ways. Two or three miles outside the City, the Banbury coach was embedded, and two passengers had to struggle sometimes up to their chins,[1] to Wolvercote. The mails from Gloucester, Worcester and Birmingham were three days late, and a post-boy was frozen to death at Burford. In Yorkshire it was just as bad and the coaches out of Leeds had to return after proceeding only two miles.[2]

In the meantime in London, the snow which had been accumulating and hardening, was still more increased by a fresh fall on the 21st, and it had reached on the buildings 'a weight hardly known in the memory of the oldest inhabitants'. 'In many places where the houses are old it became necessary to relieve the roofs by throwing off the load collected on them; and by these means the carriage ways are made of a depth hardly passable for pedestrians, while carriages with difficulty plough their way through the mass. The water-pipes being generally frozen it has become necessary for several days to afford supplies by opening the plugs in the streets, and the streams thus constantly flowing add to the general mass of the ice.[3]'

All this time Finchley Common lay under terrible drifts of varying depths. At Colnbrooke the snow was said to be sixteen feet deep, a way for the coaches being cut by fifty

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1. If once really up to the chin, no forward move could have been made.
2. A.R., Cf. G.V.C.
3. Ibid and H.E.D.B. II.

labourers. Words fail to describe Bagshot Heath; and Canterbury would have been isolated had not the militia succeeded in cutting a way through on the 25th. It was almost a labour in vain, for on the next day, the wind veered to the South West, and a thaw was discernable, which, during the next two days, made the streets and roads impassable from flood. Such, however, had been the severity of the frost, together with a slight renewal on the 30th, that the Thames, the ice of which was several feet thick, still remained solid; and on 2 February, their was a 'Frost Fair', with all the usual accompaniments. But it was a last effort. The wind changed on the 5th, the thaw began in earnest, and the next day the tide flowed in the Thames.[1] Two days later the ice parted endangering the lives of some foolish carousers who had stayed too long.[2] Meantime the thaw had already started in the north, and the Tyne, which had been frozen above and below Newcastle bridge had begun to give way. The ice was found to be twenty inches thick although the river is a rapid one.[3]

There is little doubt that 1814 was a great winter. There may have been colder since that year; but no winter of the coaching days seems to have been quite so trying; and since the introduction of the railway the mails have never been so delayed as they were in that year.

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1. H.E.D.B. II.
2. A.R.
3. Ibid.

1816 On 7 February, 1816, a deep snow feel in London, and Farington says, 'the first this winter to lay thick on the ground'.[1] Two days later the temperature was said to be 5° below zero at Tottenham. The next great fall was on 23
1819 October, 1819, between 1 and 2 a.m. after which the roads outside London were, in certain cases, impassable.[2] On 1 January,
1820 1820 there were 26° of frost, and on the 5th, the sunshine made no impression upon any frozen object.[3] From the 10th, to the 15th, was a period of intense cold;[4] and on the 18th, Dyott writes, 'a deep snow and very unprofitious weather .... in the night thawed .... then froze severely with a heavy fall of snow.[5]' It was during this period that so many of the footpaths by the road-sides now familiar to Oxford pedestrians were made by the
1821 unemployed.[6] The following January, 1821, started with 'severe cold east wind and continued freezing'.[7] On the 4th, at Prickwillow, near Ely, there was good skating;[8] but the winter
1823 was not of long duration. The year 1823 began by being cold, and there were intermittent frosts and snows to the end of February;[9] the most severe being on 19 January, when there were
1824 26° of frost. There was a bad day of snow on 11 March, 1824; but it was of no account, as the weather proved 'remarkably open

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1. F.D.
2. A.R.
3. Ibid.
4. Nature, 1930.
5. W.D.D.
6. G.V.C.
7. W.D.D.
8. Ibid.
9. W.D.D.

1825 and mild.'[1] The year 1825 does not seem to have been a cold one though there was a severe frost on 28 December which stopped all hunting in the Bramham Moor country.[2] Skating was eagerly
1826 practiced on the Serpentine, on 15 January, 1826; but the skaters seem to have been mainly roughs.[3] Snow fell in
1827 Staffordshire on 2 January, 1827,[4] and, on the 11th, at Meanwood and at Sherburn, when two children were over come, one of whom
1828, 1829 died. In Staffordshire there was snow both in February 1828 and 1829.[5]

1830 The January, of 1830, was a cold one. The season was already 'inclement' at the end of the previous December, and the roads were 'slippery' on the 31st.[6] In Oxfordshire,[7] Staffordshire[8] and elsewhere, there were 'severe frost and snow', in the first week of January. While on the 20th, there was heavy snow and a great gale at Sunderland.[9] At Oxford 'it was not till Feb. 8, that the frost broke up after forty day's continuance, during the latter part of which coal was sold at 5.s. the cwt.'[10] But it was not a severe winter in a general sense, and the spring came in 'mild and fine'.[11] The following December, the winter set in early with a sharp frost and 'the first snow for the year'
1831 on the 12th. Heavy snow fell on the 27th. The January started

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1. Ibid.
2. T. and K.
3. H.E.D.B. II.
4. W.D.D.
5. Ibid.
6. Ibid.
7. J.J.M.
8. W.D.D.
9. A.R.
10. G.V.C.
11. W.D.D.

with 'a mild morning'. There were a few snowy days round the 24th,[1] and one gigantic storm in the north of England on the 31st, which lasted into the next month, and caused considerable floods, those at York, being said to be higher than any for two hundred years.[2]

1835 The latter part of December, 1835, was cold, with sleet and rain,[3] and, on Christmas Day, seven persons were drowned in the Serpentine owing to the breaking of the ice.[4] The following
1836 December, 1836, was also snowy. On Christmas night there was a 'heavy fall ... causing unusual depth.[5] And on Boxing Day there was a storm that is almost historic as it 'dislocated the coach service all over the country. The drifts on the Marlborough Downs varied in depth from fourteen to sixteen feet.'[6] Three outside passengers to Chippenham died of the cold;[7] and the Duke of Wellington had a narrow escape from the same fate, for he and his carriage had to be dug out from a drift.[8] According to a contemporary this was 'one of the heaviest falls of snow ever remembered in this country'. It spread all over the Kingdom and in places there were drifts forty to fifty feet deep. The Dover mail went out from London twenty miles, but returned, as both coachman and guard declared 'the roads to be utterly impassable'. In some cases the mails were dispatched

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1. Ibid.
2. A.R.
3. W.D.D.
4. A.R.
5. W.D.D.
6. C.G.H. The B.R.
7. Ibid.
8. Ibid.

by Government steamers along the coast.[1] This uncomfortable
1837 time lasted more or less in to the middle of January, 1837, but it was mainly more 'inclement and cheerless' than severely frosty.[2]

1838 For a really hard frost the January, of 1838, takes the palm. In the south of England it lasted for a month and in the north, for about seven weeks.[3] The 20th, was described as the coldest day of the century in London. The temperature fell to -4°Fah. at Greenwich; -13½° at Beckenham, and -14° at Walton, near Claremont.[4] So intense was the cold at Doncaster that the river Don was frozen and a sheep roasted on it[5] And it was not until 2 March, that the opening of the canal, by breaking the ice, was completed after employing twenty men and twenty-two horses for four days.[6]

The difficulties and discomforts of travelling are again
1841 illustrated by a study of the weather of January, 1841. It was a somewhat tantalizing time. The month opened with 'genial weather'.[7] A terrific gale on the 3rd, turned into hail and snow on the 4th.[8] It snowed, rained and froze on the night of the 6th, in Staffordshire;[9] and about that date 'a skating quadrille was performed at Oxford' on the Thames opposite the

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1. A.R.
2. W.D.D.
3. H.S.
4. Nature, 1930.
5. H.S.
6. Ibid.
7. W.D.D.
8. A.R.
9. W.D.D.

college Barges.[1] The really bad snow-falls came on the 16th, when the drifts became very considerable, and the mails were stopped, particularly between Devizes and Marlborough. On the next day the down coaches on the Western road were seven and eight hours behind time. Some of them 'were six times dug out of the snow near Calne'.[2] On the 18th, there was a thaw with floods; but two days later there were 28° of frost.[3] There was another frost and a fall of snow in Staffordshire on 1 February, and the snow continued to fall the next day.[4] The cold still persisted, and on the 9th, the ornamental water at Buckingham Palace was frozen over. Here there might have been a tragedy for Prince Albert, too daring, perhaps, insisting on skating on uncertain ice, went through, and was rescued by Queen Victoria 'and one of the ladies of the court'.[5] After this narrowly averted accident, the winter passed.

It cannot be claimed that the months of January to March
1845 inclusive, on 1845, constituted a severe winter; but there were occasional bitter cold days. On 19 January, while staying with the Duke of Wellington at Stratfieldsage, Queen Victoria had to keep within doors because of the inclemency of the weather, and she passed part of her time in watching games of real tennis.[6] The truly arctic weather began about 9 March, when there was a

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1. J.J.M.
2. A.R.
3. Ibid.
4. W.D.D.
5. A.R.
6. Ibid.

'bitter black frost'[1]; and this, steadily, got worse, so that on the 14th, in London, the temperature was 1° below zero.[2] The next day had been fixed for the University Boat Race, and the Presidents could hardly have been blamed if they had postponed it to a more clement season. The race was rowed, however, amongst much floating ice, and it was only just in time, for the next day, Sunday, 'the ice closed up against Putney Bridge and all navigation ceased.'[3]

1846 The end of 1846 seemed to promise a very hard winter, which was not, in the truest sense, fulfilled, though December was cold enough. An intense frost set in on the 8th, and in London, two days later, there were 14° of frost. This caused the waters in the Parks to freeze; but it was not sufficient to make the ice safe, and some foolhardy persons ventured too soon, owing to which one life was lost. Actually in the metropolis there was very little snow; but this was not the case elsewhere. For a time Newcastle was cut off by very deep snow, and attempts, not always successful, were made by railway engines to break through the drifts on the different lines. By the 23rd, the weather was more severe than ever in London, and one woman, if not more, was frozen to death in the city, and several persons of both sexes in other parts of the country. Throughout the

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1. W.D.D.
2. A.R.
3. C.M.P.

Kingdom, the sufferings of the poor, in that period of the Hungry 'Forties, were scarcely supportable. Some, however, managed to get pleasure out of the frost, as by this time all the lakes were safely frozen and many skaters took advantage of it.[1]

1849 The year, 1849, was one of those unsatisfactory years when a sharp, short winter does considerable damage by coming out of season. There had been snow, in the north, in January; and on the 28th, there was a particularly heavy fall on the moors, near Haworth, which came too late for Emily Bronte to admire, in its cold white beauty, for she had passed away six weeks before. But heavy as the fall is said to have been, a rapid thaw soon 'dismantled the hills'.[2] The heaviness of this storm, on those dark wind-swept moors, can have been as nothing to the snow fall on 16 to 19 April. This was mainly in the south east of England, and, so severe was it in Kent, that the Westerham coach was buried and left all night in a snow drift on Titsey Hill.[3] It was this storm that taught the Telegraph Company what they might have to expect from a heavy fall of snow. The superintendent wrote,[4] 'all was well as far as the telegraph was concerned until 6 p.m., and probably later. Frost now attended the snow, and it began to congeal with the rain about

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1. A.R.
2. H.S.
3. Nature, 1930.
4. Quoted by A.R.

the telegraphic wires .... until ... along their whole length were each inclosed in a coating of snow, about the thickness of a man's arm; and this accumulated weight required little aid from the wind (which indeed blew a gale) to bear down the poles. Before midnight, some sixty or more poles, either singly or in sets of two, three, and in some cases, of four or five, were broken short off at the ground, and as many more were overthrown .... I believe that each yard of wire was surrounded by not less than ten or twelve pounds of congealed snow. Each pole had to sustain a weight of from 2000 to 3000 pounds, and in some cases double this. In places where the poles withstood the pressure the wires were so extended by the weight, as nearly, to touch the ground; and on the snow leaving them, they nearly recovered their original position - an interesting proof this of the value of iron wire, and an illustration of its properties. In the cases where lengths of copper wire were exposed, they have not recovered their original position.[1] If, for no other reason, the April storm of '49 will ever be memorable for its effect on the telegraph system.

1853 Although it was so unusually warm in January, 1853 that the temperature was sometimes as much as $14^{\circ}$ above the average, a very nasty wintry season was experienced in February. 'Snow fell nearly every day', and the Lakes in the North were frozen.

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1. Ibid.

But, what was more remarkable and alarming was that both convicts and warders at Dartmoor Prison were half-starved as their provisions became exhausted and they were cut off from the outside world by an impassable drift of snow.[1] Fortunately, before the completion of the tragedy, on 4 March, the weather suddenly changed and there were ten days of warm relaxing winds. This was, however, once again one of Nature's jests, for on the 15th, intense cold set in, and snow fell every day until the 27th. In Yorkshire, during this second cruel outburst, the weather was particularly violent, and two women at Leyburn, a man at Richmond, and a tramp on Stanhope Fell, all perished by being overcome in the snow. It was a very prolonged winter with broken intervals. The frost seemed to give way at the beginning of April, and during the month, except for a few general and considerable gales, there was not any terrible cold; but in the first two weeks of May, snow fell heavily: trains were buried, and for a time the railway was completely blocked at Sheffield.[2] The summer and autumn that followed were cold and uncongenial.

It seemed as if the country were being prepared for what
1853-4 were called 'The Crimean Winters' of 1853-4 and 1854-5. On 28 and 29 December, 1853 intense cold set in accompanied by a very heavy fall of snow, throughout the Kingdom. The general discomfort was intensified by the prevalence of fogs. Almost

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1. A.R.
2. *Ibid.*

immediately canals and ponds were thickly covered with ice.[1] The cold on New Year's Day, 1854, was terrific: it is said to have been colder than for forty-five years. A temperature of 8° below zero was registered in London on the 2nd; on the 3rd, at Highfield Observatory it was 4° below zero; while, though rather less, it was bad enough elsewhere, as at Nottingham their were 28° of frost, at York 29°, and a Grantham 30°. A strong E. wind raged, and there was one of the heaviest falls of snow ever registered. The drifts in the streets of London were many feet deep, and cabs charged 5s. a mile to carry unhappy pedestrians, of whom there were not many. The line of the London, North Western Railway, at Tring was choked by drifts. The Great Western mail train from Plymouth was three hours late; while the Great Northern Railway was completely blocked at Grantham; and, in the Chesterford cutting eight trains were imbedded in the snow. On the Great Eastern line the Norwich mail arrived at Shoreditch fourteen hours behind time; and on the South Western the mail from Southampton was four hours late. Similar things happened in Lancashire, Yorkshire, Derbyshire and Staffordshire. The next day three more inches of snow fell, and again the day after, though it was slightly warmer. The Thames had, already, started to freeze, and there was skating between Richmond and Brentford. It was interesting to notice that owing to the blocks of ice and their danger, in the river, the price of fish was forced up, as the fish catches could not

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1. Ibid.

be unloaded at Billingsgate. Needless to say that coal rose to an enormous price. There were, when the thaw came, in many parts disastrous floods; but in London, at any rate, the thaw was remarkably gradual, and the streets cleared quickly and without undue inundation.[1] With all its drastic severity this winter came, afterwards, to be regarded as merely the forerunner of a still greater one.

1854-5 There were some signs of cold towards the end of December, 1854; but the first few days of January, 1855, were unusually warm. There was a time, on the 9th, when the temperature was 50°, and yet, on that day, snow fell. The next day the temperature registered showed 6° of frost, and on the 14th, a period of piercing cold set in which lasted for six weeks, and snow fell on every day until 28 February.[2] It has been recorded that 'from the middle of January until the end of March', the Cam was frozen, and during the same period 'the Thames was frozen over from Oxford to Henley'.[3] By 20 January the Thames, in London, was encumbered with masses of frozen snow, and, for several days round that date, discomfort was intensified by a violent N.N.E. gale. On 18 February, there were 31° of frost at Berkhampstead, and 24° in London. Four days later a remarkably fine skating spectacle was exhibited on the Serpentine, when hundreds of skaters glided backwards and forwards with

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1. *Ibid.*
2. *Ibid.*
3. C.M.P.

lighted lamps. Skating became the common pastime on Lakes Derwentwater and Windermere; and from 17 January to 3 March all hunting was stopped in the Yorkshire Wolds.[1] From 20 February to 6 March, the frost moderated for a time in some districts; but, on the latter date, extreme cold set in again, and from the 8th, to the end of the month, it snowed on every day.[2] 'The effects of so ungenial a season upon the mortality and health of the population were as evil as could be anticipated. The deaths greatly exceeding the average.'[3] Nor was it until June had long been established that the cold disappeared.[4]

The renewal of more genial weather, however, was for no excessive length of time. In December, a hard frost set in; the ornamental waters in the London Parks were again frozen, and three boys were drowned in St. James' Park. The Thames did not completely freeze across, but it was rendered very dangerous by the masses of floating ice. On the 18th, 'the frost was so intense that it stopped the clock of St. Paul's Cathedral.'[5] England, however, was not destined, at this period, to have a repetition of 'The Crimean Winters', for January and February,
1856 1856, were celebrated rather for storm and shipwreck than for frost and snow. Certainly the end of the year, was very distinctly cold. During November, there was a period of hard frost, and very little rain; and on 4 December, there was

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1. T. and K.
2. A.R.
3. *Ibid.*
4. *Ibid.*
5. *Ibid.*

skating on the Serpentine and in Regent's Park. The streets were particularly slippery, so that 'few carriages ventured out'. But there was nothing of the really severe character this time, and this, very temporary cold snap, was succeeded by a period of unusual mild weather and driving gales from the S.S.W.

1857 In 1857, what winter there was came late. It was somewhat protracted, and the March, of that year, was remarkable
1858 for storms of snow and hail. The next year opened, on 3 January, with a very severe snowstorm in the south of England; all traffic in London was interrupted, and some of the trains on the northern lines were blocked.[1] During the same period all hunting ceased in the East Riding of Yorkshire.[2] It is perhaps noticeable that this was followed by a very hot June.
1859 The year 1859, from the point of view of cold, contained nothing worthy of record.

1860 Cold weather set in on 25 January, 1860, which lasted till the end of the quarter. During this period Lord Middleton's hounds were unable to Hunt in the Wold country for 24 days.[3] The worst days were between 13 and 19 February, during which the snow-fall was very heavy. On the 31th, the Ramsgate line was partly blocked by snow which brought about a collision and the injury of three passengers. There was another great fall on the 19th, and during the whole period there were terrific gales.

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1. Ibid.
2. T. and K.
3. Ibid.

But it was the end of this year and the beginning of the next that stand out as exceptional.[1] One writer speaks of 'the

1860/1 arctic frost of 1860 and 1861.'[2] The cold began to be intense on 8 December. Up to Christmas Eve there were hard frosts, the temperature being 16° below the average. On Christmas Day heavy snow fell. The drifts in Hampshire were greater than known for many years; and this day was said to be the coldest Christmas Day for fifty years. At Nottingham 4° below zero were registered. Trains from the S.W. were much delayed. Thick ice was formed in the Parks; and, as the month concluded, the mass of floating ice in the Thames caused 'a loud roaring noise'. Canals were frozen in many parts, and Lake Derwentwater afforded fine skating. Many unfortunate persons were frozen to death; and larks and redwings died by thousands.[3] The period 1 to 24 January 'maintained the character of the season as the coldest ever remembered.'[4] At the end of the month, however, the frosty elements gave way to terrible gales causing much damage on land and sea. The general appearance of that winter was described in 1931 by one who remembered it. 'It was' he says 'very cold, the thermometer going down to 9° below zero, but it was a very beautiful frost, most of the days being clear and light, and so still that the temperature in the valleys was lower than that on the hills. The cold moderated for one day in the middle of the frost, and a cold rain fell

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1. Ibid.
2. Rev. H.W. H.G.
3. A.R.
4. Ibid.

freezing as clear ice on everything it touched, and producing the beautiful phenomenon of the "Silver Thaw".[1] '

1862, 1863 The mild character of the years 1862 and 1863 leaves

1864 nothing to record as to Frost and Cold. But 1864 began with every sign of a hard winter, and it proved distinctly cold, but it was not exceptional. On 7 January, in London, the temperature was almost zero. There were, however, many rainy days, although during the month there were nineteen frosty nights.[2] In February there were twenty one frosty nights, and the most severe cold was on the 9th, and 10th, snow falling on the latter day. Considerable snow storms raged on the 16th, but they did not continue. During the first fortnight of March there was a great deal of rain, but throughout the whole month there were eighteen frosty nights. On the 30th, there were three inches of snow, and on 5 April, there was another heavy fall followed by a series of frosty nights. But they got their notice to quit for the swallow and the lesser Whitethroat arrived on the 16th, the chestnut was in leaf on the 21st, and pears in blossom on the 26th.[3] The year ended in being cold and unpleasant, but there was no historic winter.

1867 The January of 1867, was notorious, on one day at least, for the severity of the frost, and that was on the 4th. The cold of that day was never again surpassed in London until 30 December, 1908.[4] To add to the general discomfort there had

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1. Rev. H.W.G.H. <u>cf</u>. 1672, 1766.
2. A.R.
3. A.R.
4. A.R. 1908.

been heavy falls of snow and these had made the roads in the London district almost impassable with, one most disastrous result. The Metropolitan Fire Engines were rendered incapable of assisting the local engines at Croydon, and the ancient church of St. John's was destroyed by fire on the 5th, a catastrophe which might have been avoided had the engines been able to get through the masses of snow that impeded them. At the same time, North Wales suffered from a tremendous storm of wind and snow about the 7th. The snow drifted from the mountains in blinding masses and by accumulating in the cuttings blocked the railway lines. A violent gust of wind overturned the Post Office van on the Chester-Holyhead line. This caused the engine couplings to snap and the engine ran on until imbedded in the snow. The passenger carriages left the rails, and yet, miraculously, everyone escaped alive. That January certainly proved a winter of very remarkable accidents all of which can be attributed to the severity of the season.

There were considerable blizzards and heavy falls of snow, on 23 December, 1870, in Norfolk and Cambridgeshire; and at Malton in Yorkshire there were 24° of frost. All day, on Christmas Eve, there were never less than 10°; and by this time the upper reaches of the Tyne were frozen, and there were many skaters at Newcastle. On Boxing Day there was a serious railways accident at Hatfield, in which eight persons were killed, and the disaster was made more terrible, 'from the extreme cold
1871 and heavy snow then falling.[1] In January, 1871, there was such

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1. A.R.

hard frost at Oxford that it was possible to roast a sheep on the ice at Kennington.[1]

1872 A contemporary called the year, 1872, 'this extraordinary year'[2]; but this was not because of frost and cold, though it is true that the University Boat Race on 23 march was rowed on a 'hopelessly wretched day' during which 'Fog, sleet, snow and hail all struggled their hardest for the mastery'[3]. The beginning of the month of May, says one writer, 'presents an aspect peculiarly ungenial'[4], and well he might, for all England was chattering with cold, and Yorkshire was covered with snow. The
1873 country was again under snow on 1 February, 1873, and there was, at the same time, a nasty north east wind and 4° of frost. This year ended in hard frosts accompanied by impenetrable fog.[5] A year later, in 1874 the west and north suffered a tremendous
1874 snowstorm in December, though London entirely escaped. In the south west the snow fell incessantly for three days, and reached a depth 'unequalled since 1810'. In many places, railway traffic was stopped. It was during this period that there was the terrible railway accident on the 24th, at Shipton-on-Cherwell, near Oxford. All the miseries of the disaster were intensified by the weather. Some of the unhappy survivors gathered round fires made from the smashed carriages, 'while others sat disconsolately in the snow.[6]'

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1. J.J.M.
2. A.R.
3. Ibid.
4. Ibid.
5. <u>Nature</u>, 1930.
6. A.R.

A winter that must be regarded as severe, and yet one that had intervals of moderation was that which started on 4 December,
1875-6 1875. On that morning, in London, the weather was thick, but there cannot be said to have been a dense fog. And yet their was an extraordinary darkness and during the middle of the day, it was as dark as night. To add to the unpleasantness snow fell all day long.[1] Two days later the Essex coast was visited by an unusually heavy snow-storm during which a German mail-steamer was wrecked. The three outstanding bad days of the winter were, 21 January, 12 March, and 12 April. On the first of these the country was visited by what was called, at the time, 'a remarkable' snow-storm. At Cheltenham, 'the large iron church of St. Luke's was broken down by the superincumbent weight upon its roof'. At Bristol and in the West generally the fall was very heavy; and all telegraphic communication, in the north of England, was stopped. As a direct result of this snow-storm there was a railway accident at Abbots Ripton, near Huntingdon. Owing to the blizzard 'it was 'impossible to see the signals and the Scotch Express ran into a coal train. Many persons were seriously injured. At that very moment the Leeds express from King's Cross rushed through the blinding snow into the debris of the other accident, and twelve persons were killed.[2] The second bad day, 12 March, was marked by great snow storms and gales passing over the whole country. At Oxford, as elsewhere,

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1. Ibid.
2. Ibid.

they were very severe and railway traffic was delayed.[1] The Empress of Austria, returning from Windsor to London, was two hours late owing to the snow and gale breaking down the telegraph wires. A curious accident happened with regard to a telegraph wire at Islington. 'The wire fell round the neck of a horse-keeper, who was driving an omnibus into a stable ... and all but severed his head from his body.'[2] The third bad storm was on the eve of Good Friday, 12 April, when there was a most famous snowstorm. All night, in London, the wind blew 'with the fury of a hurricane', and immense quantities of snow fell. A Pullman car from St. Pancras 'got snowed up near Wesborough station and arrived at Leicester five hours late.'[3] The storm was, however, very shortlived, and by the night of the 13th most of the snow had melted. At the end of the year there was very heavy snow on Christmas Day, which blocked many of the railways in the north of England; but this wintry outburst passed away that day in a terrific gale from the south-west.[4]

1879 The year 1879 has ever been famous for being one of the most miserable and unsatisfactory in modern times. This wretchedness, however, was not so much due to frost and snow as to rain; though there were a few instances of the former. Most of January and February, at Nantwich, was frosty;[5] and on 26 February, London and the surrounding counties were covered

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1. J.J.M.
2. A.R.
3. Ibid.
4. Ibid.
5. Hall.

with snow.[1] Easter Monday, 14 April, was bitterly cold,[2] and, on 1 May there was a heavy fall of snow in Cheshire.[3] Towards the end of the year it was cold, but there was little or no snow. And throughout the British Isles, on 4 December, there was an extremely low temperature -23° Fah.[4] This was a forecast of a bad winter, but it did not eventuate.

Those who look back upon their childhood in the 'eighties are accustomed to think of those happy youthful days as of great fun in the Christmas holidays when they had so much tobogganning and skating. Perhaps the passage of years has tended to magnify, but undoubtedly the 'eighties, began with considerable

1880/1 frost and snow. Very heavy snow fell on 29 December, 1880. From 7 to 26 January, 1881, there was a severe frost over the whole of England. On the 17th, the temperature was below zero,[5] and much snow fell in London.[6] The 18th, was, however, the really famous day, known for long as the day of 'the great snowstorm', and it raged throughout the Midlands and the east and south east of England. It was accompanied by a most violent easterly gale, the velocity of which, for a quarter of an hour at Yarmouth, was 73 miles an hour. In London the snow storm was the worst in living memory, and the same may be said of that in the Isle of Wight.[7] By the evening the General Post Office had to announce that communication between London and the country

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1. A.R.
2. Ibid.
3. Hall.
4. *Nature* 1930.
5. Ibid.
6. A.R.
7. *Nature*, 1930.

was almost entirely suspended. 'The two judges who left London to open the Assizes at Maidstone, were, after seven hours travelling, snowed up at Shoreham, 23 miles from town'.[1] Many persons returning to Oxford for the beginning of Hilary Term spent the night in the train near Culham.[2] By the 19th, the railways in the Midlands were blocked in many places, and some were snow-bound for as much as twenty-four hours. The loss to places of entertainment was immense for many theatres were obliged to close.[3] A second prodigious snow storm visited the Isle of Wight on the 20th, and, in a short time, in Cowes there were drifts twelve feet deep.[4] The next day, the Cambridge University Boat was unable to start its practice for the river was frozen, and there was skating all the way from Cambridge to Ely.[5] The Cambridge boat seemed dogged with ill luck, for the day it appeared on tidal waters, 21 March, it was assailed by a violent snow storm, all of which may have had a bad effect upon the crew's training, as they lost by three lengths.[6]

1882/3 The December of 1882 promised a severe winter. Very heavy snow-storms prevailed on the 6th, and these were spread throughout the greater part of the kindgom. The next day, such was the depth of the drifts between Bala and Festiniog, passengers, without food, were snow-bound in a train for thirty hours; and the train itself was not extricated for three days.[7]

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1. A.R.
2. R.W.J.
3. A.R.
4. Nature, 1930.
5. C.M.P.
6. Ibid.
7. A.R.

Nothing otherwise of an exceptional character happened. There were, of course, floods after this snowfall, but the year was normal. On 8 March, 1883, both University crews had a gruelling piece of practice being obliged to row in a blizzard. But, perhaps, this was a useful test, for in the Race itself, on the 18th, they had to struggle against 'a blinding snow-storm, ... and the rapidly darkening gloom of the evening' hid both boats from the spectators.[1]

1884 The January of 1884 had many gales, snow storms and floods.

1885/6 There was some frost in 1885; and, considerable cold in London in January, 1886. On the 9th, the ice suddenly gave way in Regent's Park, and although 100 persons were in the water, not a life was lost. Skating was again renewed and continued well into March. On the 1st, there was the heaviest snow fall of the season. Traffic was considerably interrupted.[2] The storm was almost incessant up to the 3rd, in the north, where transport was completely stopped.[3] In one snow-bound train, the water from the footwarmers was utilized for drinking, a box of herrings found in the train was cooked on the engine shovel, and a couple of loaves and other delicacies, including half a gallon of whisky, were appropriated from the Parcel Post. All this was not very much for a hundred passengers.[4] There was a renewal, on the 5th, particularly in the west where the drifts were gigantic.

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1. C.M.P.
2. A.R.
3. H.D.D.
4. The Times. T. 5.3.86.

'On the Welsh mountains from 8000 to 10,000 sheep were reported as having been lost.[1]' The end was not even yet. On the 16th, there were fresh outbursts of blizzards throughout the Midlands; and all the time the frost continued to hold, skating being general in all parts of the country. Hunting, on the other hand, especially in the Wold country was much interrupted.[2] The monther ended, however, first in a thick fog in the Channel, and then, in a severe gale which did tremendous harm to property. but good, also, in blowing away a long continuous winter. The year, was not to end without one more wintry fling, and on 26-7 December, there was a very distinctive snow-storm in the east and South of England.[3] In the course of the afternoon of the 26th, owing to the 'incalculable weight of the snow', telegraph poles were torn down in all directions, and of the five hundred wires connecting London with the outside world only two were left in working order.[4]

1887 The Jubilee Year of 1887 is always looked upon as one of warmth and beauty; but one day, at least, in the north was not so. On 26 April, there was a colossal snow storm which spread from the Lake District to Birmingham.[5] The 26 December, also, stands out as a tragic day, on which the first display of wintry weather was marked by several ice and snow accidents, including thirteen deaths[6]

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1. A.R.
2. T. and K.
3. H.D.D.
4. A.R.
5. Ibid.
6. Ibid.

The tradition of the 'eighties was to a certain extent

1888 carried on in 1888. It was cold in January, accompanied by much fog. On 14 February, the snow storms were so violent that in the south west trains were snowed up for many hours. Six days later, the same thing happened in the west and in the north.[1] At Settle, the snow fall was very heavy, and an uncommon entertainment was improvised, when a hundred children were given tea in a immense snow-castle erected in Kickgate.[2] Gale followed gale, and on 14 March, again the snow storms were so terrific that railways lines were blocked and 'many persons [were] snowed up in their houses'.[3] Matters seemed worse than ever on the 16th. The snow was continuous; and the line from Newcastle to Berwick was completely stopped. A fresh gale burst upon the country on the 19th, accompanied by heavy snow in London and the Southern Counties. The Channel crossings were appalling and the mails were much delayed. Better times had come by the 24th, for, although the University Boat Race had to start in 'misty' weather at 11 a.m. the crews had not to fight against a blizzard. It was a curious year, however, as 11 July was bitterly cold and snow fell in several parts of England. It did the same on 1 October, and at this period there was intense cold on the continent.[4]

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1. Ibid.
2. C.N.W.Y.
3. A.R.
4. Ibid.

This peculiar outburst of cold did not bring with it anything out of the ordinary in the next winter. On 10 February,
1889 1889, there was a wild snowstorm over the British Isles. Great delay was caused in the telegraph service and in all railway communication. After this from time to time there were heavy falls of snow until a sudden thaw at the beginning of March, which produced floods in many parts, particularly in Somerset and Devon.[1]

1890 The gales of January, 1890, were terrible; but the coldest time and the hardest frost, with the heaviest fall of snow, came on 2 March. This, however, was soon followed by intense heat. At the close of the year the snow began as early as 25 November, when with an easterly gale a snowstorm raged, mainly, in the channel and caused much damage to shipping. Two days later the snow fell more heavily. In many parts of the country, the fall was continuous for forty eight hours, and all traffic was much impeded. At the end of December bitter weather set in. At Oxford the temperature was 9°, and at Cambridge 4°. For three weeks the frost reigned supreme; many portions of the upper Thames were frozen and used for skating. The frost showed signs of abatement on the 31st, but these were not confirmed.[2] In fact this winter was to prove one of the 'real old
1891 fashioned' sort. When January started in 1891, it was as cold as ever. By this time the long continuance of frost was

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1. Ibid.
2. Ibid.

causing much distress in London, the manufacturing towns, and, in particular, in the Potteries and the shipping centres.[1] On the 12th, the frost which had lasted for six weeks suddenly broke both on the continent and in England;[2] but, in less than a week, it returned again, and on the 19th, a coach and four was driven upon the Thames at Oxford. The ice had been bored and was found to be eight inches thick in any part and in some thicker still. The thaw began on the next day.[3] But even this was not the end of the winter. On 9-10 March, a hurricane accompanied by a blizzard, raged in the channel and heavy snow fell over the south of England. In Devon and Cornwall the snow was two feet deep with immense drifts.[4] The train service was very much affected. The famous train, 'The Zulu', left Paddington at 3 p.m. on 9 March and reached Plymouth, at 8.30 p.m. on the 13th. The south west, undoubtedly, suffered more than elsewhere; and on the higher parts of Dartmoor and Exmoor the snow remained until June.[5]

1892 On one occasion in 1892, the temperature fell below zero, and that was on 15 February, when there was a gale and heavy snow, the combination of which stopped telegraphic communication. Severe frosts at the end of the year, particularly on 24 December,[6] were more than usually trying as they followed a period of abnormally high temperature, but they did not last

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1. Ibid.
2. Ibid.
3. Ibid.
4. Meterological Magazine, 1937.
5. *Nature*, 1930.
6. A.R.

1893 into 1893, and that year, had, therefore, an early spring.[1]

1894 Nor can anything of interest be said of cold and frost in 1894. It is true, that, after a long continuance of mild weather, a sharp frost with a north east wind set in.[2] This brought with it very severe snow storms, amounting to blizzards, especially on the South coast. Anything, however, that happened this year in the way of cold is as nothing when compared with the events of its successor.

1895 The 'great frost', and 'great' it will ever be for those who remember it, lasted from 30 December, 1894, to 5 March, 1895, except for one week of rather mild weather, between the 14 and 21 January. For the greater part of the time there were strong easterly winds.[3] In nothern England, on 1 January, snow fell heavily, while in the South there were terrific gales. In the North on the 10th; the cold was particularly intense; on the 12th, throughout the country there was a blinding S.E. snow-storm. Then followed the short relaxation, accompanied, mainly in the Midlands, by floods.[4] In London, before 10 a.m. on the 23rd, there was intense darkness and thick fog, followed by thunder and a drop of five degrees in the temperature. The storm strove across England from the West Riding to Sussex. At Bromley there was a very heavy fall of snow.[5] This was the prelude for the renewal of the 'great' frost, and from 26 January, for three weeks the average temperature at Greenwich

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1. Nature, 1930.
2. A.R.
3. Nature, 1930.
4. A.R.
5. Nature, 1930.

was below 26° Fah. Truly arctic weather set in on the 30th, and the snow fall in the West of England was well described as 'imprecedented'.[1] The average temperature on 7 February was 8° Fah. By this time all river traffic on the Thames, the Severn and the Humber had ceased.[2] Some of the ice floes on the Thames were found to be six or seven feet thick.[3] By the 18th, the ice on the lake in Regent's Park was ten inches thick, and in the Fens two feet. At Oxford, a coach and six was driven on the river. At Ellerburn, Yorkshire, the Paper-mill Pond was frozen solid to the bottom and hundreds of fish died, and were carried by carrion crows (when the thaw came), to be devoured on the surrounding heights. The roads round Lochton and Levisham were drift-bound, and had to be cut out by the farmers for the doctor on his round in that disastrous season of influenza. In that district there was snow under the hedges as late as Easter Sunday, 14 April.[4] But long before this the change had set in, and by the middle of March things were normal again.

The 'great frost' of 1895 was said to be the most severe since that of 1813-4,[5] and there has never been anything quite like it up to the present date.[6] After its prolonged efforts, England seemed to enter upon a period of less severity.

1897 Certainly on 22 January, 1897, a N.E. gale brought a thirty-six

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1. A.R.
2. Ibid.
3. Nature, 1930.
4. R.W.J.
5. Nature, 1930.
6. 1931.

hours snowstorm that blocked both road and railway.[1] Certainly,
1898 too, on 21 February, 1898, there was a forty hour snowstorm, mainly in Dorset, Somerset, Devon and Cornwall. Telegraph poles were snapped and rail and road traffic blocked by drifts. Again on 24 March, of that year, a N.E. gale brought a blinding blizzard with it, which passed over the greater part of the country, causing damage to the telegraph system and to shipping.[2] That year, once again, the University crews had the misfortune to row in a N.E. gale of rain and snow on 26 March, during which the Cambridge boat was waterlogged in one hundred yards.[3] Again,
1899 too, at the end of March, 1899, there was every sign of very wintry weather with raging snow storms; but none of these things compare with the length and ferocity of the winter of 1895.

1900 The year 1900, began with the appearance of being likely to be a cold one, and, as late as, 7 February, it was said, 'The weather is still cold, colder each day, and the snow not yet melted.'[4] This, however, is a mere nothing; nor can the
1901 heavy snow-storms of 29 March, and of 12-14 December, 1901, nor
1902 that of 9 February, 1902, in North Wales, nor, indeed that of
1906 26-30 December, 1906, throughout the Kingdom, be said to constitute real winters.[5]

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1. A.R.
2. Ibid.
3. C.M.P.
4. F.Y.P.
5. A.R.

1908 At the beginning of January, 1908, the cold was intense. On 8 January, on the mail-boat from Calais, the spray, as it fell on the deck turned to little lumps of ice. At Dover, a lady's watch stopped at the moment of landing, though worn on her person, beneath many wraps, the minute fragment of oil in it being frozen, and it again began to work when held in front of a fire.[1] During this period there was a very keen frost over the whole Kingdom. As early as the 3rd, there was skating at Oxford on Portmeadow, and this continued for some time. The spring remained cold, but there were bright intervals. The Yorkshire Wolds were covered with snow on the early morning of 4 April, but further south there were no signs of it.[2] On the morning of the 25th, there was one of the greatest spring snow falls on record in the midlands and southern England. At Southampton all work at the docks was brought to a standstill, and throughout Oxfordshire, Berkshire and the North of Hampshire, all traffic by road was held up and communication by rail was maintained, only with the greatest difficulty.[3] The City of Oxford suffered considerably. At 9 a.m. there was no snow, but by midday the fall on the level was eighteen inches and in some of the residential roads there were drifts over three feet. Much damage was done to trees, some, like a large laburnum, were split in sunder, and others, like the fine cedars in Wadham College Gardens, had their branches torn off by the weight of the snow.[4]

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1. R.W.J.
2. *Ibid.*
3. *Nature*, 1930.
4. R.W.J.

The drifts in the Cotswolds were stupendous, and many persons trying to get to Oxford for the beginning of what is, commonly, called 'Summer Term', were seriously delayed in some cases, to the early hours of the next day. That day, Sunday, witnessed a thaw that was unlike anything that anyone could remember. The roads were running stremas, and the Thames flooded its banks in all directions. Exactly a week later the warmth was most unusual, in fact, the heat was quite unpleasant.[1] This freak of nature was not the only one in 1908. The year ended with two other records in frost and cold. On 27 December there was a sharp frost, which was followed next day with the heaviest snowfall since the great storm on 18 January, 1881. Traffic was disorganised, trains in Yorkshire were snowed up, and many sheep were reported to be lost. On the 29th, the thermometer registered the fact that it was the coldest day, but not the coldest night, since 4 January, 1867.[2] At Wolverhampton, it is referred to as 'bitterly cold and snowy'.[3] A rapid thaw came on the last day of the year, and the frost broke up to return
1909. again for a very short time, on 27-28 January, 1909.

1911 There was some wintry weather in January and April, 1911; but nothing as bad as the great snowstorms on 8 and 17 January,
1912 1912. The first of these latter, was mainly confined to the North of England and North Wales; while the second was in the
1913 North and the Midlands. The next year did not show much general

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1. Ibid.
2. A.R.
3. E.M.H.L.

snow; there was some in the north in January, and there was a violent storm in the Peak and part of the North on 11 April; and, again, in the North and Midlands on 29-30 December. A
1914 severe winter began in January, 1914, but it was mainly round
1915 the 12th, and 15th. The year 1915 was marked by three heavy falls in London on 22 January, 23 February, and 18 March.[1]

One of the most remarkable storms of recent years was on
1916 28 March, 1916. It had been a nasty winter and the British troops had suffered much from its inclemency on the continent. In London there had been numerous gales, and most parts of the Kingdom had experienced heavy snowstorms on 23 February and 7 March. But these are hardly worthy of notice when compared with that of the 28th. It cut, mainly, across the Midlands taking Oxford in its southern stride. In the city the snow did not fall in flakes, but in clods as big as a man's hand - soppy wet lumps.[2] Outside in the country districts, accompanied by a roaring hurricane, the snow was finer and drier, and rapidly piled in drifts. Farms and sheep were buried beneath drifts of a gigantic character said to be in some cases forty feet deep.[3] The Cotswolds suffered tremendously. For some days it was impossible to reach Stow-on-the-Wold by means of vehicles; and it took ten men eleven days to cut a way through on the Burford-Stow road. It was said that not a single telegraph pole was

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1. A.R.
2. R.W.J.
3. A.R.

left standing between Yarnton and Moreton-in-the-Marsh, and trains had to be hand-signalled, while in other parts railway traffic was stopped altogether.[1] In the Black Mountains the snow was ten feet deep.[2] Trees were uprooted, completely blocking, for the time, some of the main roads of the Midlands. Had an invasion taken place it might have proved extremely well timed for the invaders. And what a change on 1 April? In a garden at Mangersbury, Gloucestershire, the sun was brilliant and hot, the bees were buzzing and there was every sign of a forward spring, and outside there was deep snow.[3]

1916-17 The winter of 1916-17 is more celebrated for its tiresome and long drawn out character than for any outward events. Some parts of the country were almost scot free, but in North Oxfordshire, at least, this was not the case. At Great Rollright in the extreme north west of the county, between 10 December, 1916 and 13 April, 1917, snow was visible on 98 days. Agricultural work was much delayed, and, in certain instances, shrubs and bushes were killed, mainly by a bad frost in March. That part of England was also visited by snowstorms in the
1918 following year, and on 17 January, 1918, the snow on the level was over fifteen inches deep.[4]

The whole country was again to experience, on 27 April,
1919 1919, one of those terrific April snowstorms that can do, and
1920 have done, so much harm. Late January, 1920, brought with it

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1. R.W.J.
2. Nature, 1930.
3. R.W.J.
4. Ibid.

heavy snows falls in Yorkshire, the Midlands and Wales, throughout which telegraphic and telephonic communication was much interrupted.[1] There was still more snow in most parts on 15

1924 March.[2] It was not again, until 1924, that truly bitter wintry weather can be recorded. There were biting gales on 8 January; and on the next day there was the heaviest fall of snow, in London, that there had been for many years.[3] In North Oxfordshire it snowed lightly for some weeks on nearly every day.[4] From 12 to 16 February, there was hard frost all over the Kingdom, and the month as a whole was marked by extreme cold and a scarcity of rain. This latter want, however, was made up later in the year.[5]

1925 The end of 1925 set in with great cold. On 6 December, the frost had been, and was, so keen that there was skating in London. In Oxford the cold was intense and very penetrating owing to cutting east winds.[6] This continued in 1926, and on 14 January, the pleasure of many skaters was abated by a heavy fall of snow. The whole year was dull and unseasonable, and throughout the twelve months, there was less sunshine recorded at Rothamsted, than in any previous year.[7]

1927 It will be within the memory of some that 1927 was not much, if at all, superior to its predecessor. It began with gales and some northern snow storms,[8] and concluded with harsh

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1. A.R.
2. Ibid.
3. Ibid.
4. R.W.J.
5. A.R.
6. R.W.J.
7. A.R.
8. T. and K.

cold. There was wide spread frost on 19 December, and on the 21st, the cold was still more intense. The rain froze as it fell on the roads and thereby caused many accidents. The train services were seriously affected. Christmas Day was terrible when there was one of the worst rain and snow storms in living memory. The rain was mainly in the south, and the snow in the Midlands. It snowed all day on Boxing Day in the South East, accompanied by a cutting N.E. wind. The gale caused stupendous drifts, in some cases twenty feet deep, in which motor cars and country buses were buried in a most astounding fashion. Villages were completely cut off from the outside world, and, for the first time in history, provisions had to be brought to them by aeroplanes. The storm was remarkable in its choice of locations. It was most severe, and the snow was the deepest on Dartmoor, along the North Downs, and in the Alton-Basingstoke district, whereas, there was practically nothing, in the city of Oxford.[1] A sudden thaw caused vast floods in the Canterbury and Maidstone districts. On the 29th, however, there was another frosty day with a bitter wind; and as the thaw had not been sufficiently prolonged, the delay in communication, owing to the great depth of the snow, continued.[2] It was not until 3 January,
1928 1928, that the cold spell began to relax; but, as late as the 21st, there was snow, six or seven feet deep, on some of the Hampshire roads.[3] Since that date,[4] there has been little or

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1. R.W.J.
2. A.R.
3. <u>Nature</u>, 1930.
4. To 31 December, 1931.

nothing in the way of heavy snow-fall or intense cold. On
1929 11 February, 1929, there were $13^{\circ}$ of frost in Kent, with biting winds; the next day it was more intense, and on the 16th, snow
1931 fell in many places. At the end of December, 1931 it looked as if their was to be a cold snap. On the 29th, heavy snow fell in Oxfordshire and still heavier in the North. Some roads were impassable, but this was only for a day or two, and no trains were blocked nor was there any interference with the telegraph or telephone systems.

And so this record of England's 'Cold and Frost' ceases. With all its miseries and discomforts it is possible, still, to agree with Wordsworth as to the snow,

> .... 'that beauty, destined to endure,
> White, radiant, spotless, exquisitely pure,
> Through all vicissitudes, till genial Spring
> Has filled the laughing vales with welcome flowers'.

# CHAPTER II.

## Mild, Warm and Hot.

For, lo! the winter is past, the rain is over and gone; the flowers appear on the earth!

Song of Solomon.

When the warm sun, that brings
Seed-time and harvest, has returned again
'Tis sweet to visit the still-wood, where springs
The first flower of the plain.

Henry Longfellow.

Behold! the radiant Spring
In splendour decked anew!
Down from her heaven of blue
Returns on sunlit wing.

Robert Bridges.

There are certain days in August when the air is soft and lucid, and the pale skies have a delicate fragility which is unknown at other times.

John Buchan.

The early chroniclers and later diarists do not, often, record the pleasant aspects of the English climate, perhaps, because those halcyon days are few and far between. They growl about hard winters, great storms of thunder and lightning: frequently they have much to say of the unseasonable down pours of rain; just occasionally, however, but only very seldom, have they something to tell of the delights, (and they are many), of the English springtime, or of the exceptional heat, and even drought, of our summers, or of the unexpected mildness of some particular winter, the latter being a climatic condition abhorred by most Englishmen.

What exactly the effect was upon the land and harvest of
1078 the first recorded unusually dry summer, that of 1078, we are not told.[1] It may be presumed that the fruits of the earth, though possibly parched, did not suffer so much as in the numerous wet seasons, of which there are so many entries, for if they had been destroyed, an account in some detail would have
1112 been given. For 1112, the Anglo-Saxon Chronicle goes out of its usual course to state that the year was a good one, and 'very abundant in wood and field'.[2] That this could have been said, must mean that the year had been a <u>very</u> good one, because an ordinarily productive year would not have brought the mind of the annalist to make such a statement. The year, from a harvest point of view, must have been 'extraordinary', or, at least, that in that year, all was well with English agriculture and that the season had been kindly, clement and even warm.
1144 It may similarly be inferred that the August of 1144, was more than warm, probably very hot, for Geoffrey de Mandeville in an attach upon a post of King Stephen at Burwell, took off his helmet, to cool himself, and thereby met his death, his brain being pierced by an arrow,[3] in the moment of mopping his heated brow.

It is impossible to imagine that there were no fine years for nearly a century and a half, but no chronicler seems to have thought it worth while to record anything like fine, mild,

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1. A.S.C.
2. Ibid.
3. Sir J.R.F. of E.

seasonable or warm weather until 1241, and again on 13 March,
1252 1252, and in this latter case, though obviously fine, the record is rather one of misery than of rejoicing. On that day 'there began a sore drought continuing a long time.... The grass was so burnt up in pastures and meadows that if a man took some of it in his hands, it straight fell to powder, and so cattle were starved for lack of meat. And because of the exceeding hot nights there was such abundance of fleas, flies and gnats, that the people were vexed and brought in case to be weary of their lives. And herewith chanced many diseases, as sweats, agues and others. In the harvest time fell there a great dearth and murrain amongst cattle, and especially in Norfolk, in the Fens and other parts of the south. This infection was such that dogs and ravens feeding on the dead carrion swelled straight away and died, so that the people durst eat no beef lest the flesh haply might be infected.'[1] All this, andmost unpleasant it must have been, led up to the terrible
1256/8 famine years, 1256-8.

The fact was the 'sole drought' was followed by two years
1260 of almost continuous rain. At the beginning of 1260, however, there was what must have been unhealthy mildness. On 2 February, the Purification of the B.V.M., all kinds of trees were in leaf, and unbelievable though it may be, are said to have yielded fruit about Easter.[2] This abnormal warmth continued

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1. Quoted in Nature, 1930.
2. Eul. Hist.

until Midsummer Day;[1] and, once again, the completely normal set in for several years to come. After continual downpours

1276/7 in February and March, 1276/7, it is recorded that the April of

1277 1277, was very very hot throughout the whole month;[2] and during

1278 the winter of 1278, there was 'neither snow nor ice in our parts.'[3] Ten years elapsed before there was again a really mild

1289/90 spring which set in on 2 February, 1289/90, and lasted till March, 'with hardly any rain at all.'[4]

A century passed before a year of great heat was recorded,

1387 and that year was 1387. There must have been many others, but, as already said, the fine and pleasant, the ever-hoped-for, and what Englishmen delude themselves into thinking the 'usual', whereas they are really 'unusual', do not catch the attention of contemporary annalists. Throughout Europe this particular year was remarkably hot, and in England, too, it was dry and warm, though there is no reason to think that it proved a period of drought like that of 1252.[5] Almost another century passed,

1465 and a real case of drought occurred in 1465 when 'This yere was a grete drouthe, the whiche duryd from myddes of Marche till the morne after Mydsomer day that never reyned';[6] or again in

1473 1473,[7] which brought about a disastrous destruction of crops.

1496 On the other hand the summer months of 1496, must have been fair and serene for the harvest was exceptionally good as the

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1. A.M. Win.
2. *Ibid.*
3. A.M. Dunst.
4. A.M. Os.
5. *Nature*, 1930.
6. C.S. 1880.
7. *Nature*, 1930.

price of corn was as low as 4s. a quarter.[1] A hundred years before, in time of dearth, it had reached £1.4s. a quarter.[2]

According to Stow 'there fell no rain to be accounted of
1516/17 from the beginning of September, [1516] till May in the following year, so that in some places men were fain to drive their cattle three or four miles to water.'[3] Very much resembling this was
1540 the summer of 1540 which was exceedingly hot, and this produced a general drought throughout the Kingdom, insomuch that small rivers were entirely dried up and many cattle perished for want of water. The river Thames was so empty that the salt water flowed above London Bridge, and continued so till the fresh water was increased by rain.[4] This lack of rain was very astounding and, it is said, that rain fell only six times between February and 19 September.[5] This fine, dry weather, was broken, at the end of the year, by a fall of snow, otherwise,
1541 it continued into 1541, with disastrous results, as many people died from diarrhoea and dysentery, and cattle perished for want of water, especially in Nottinghamshire.[6] The drought returned
1548, 1557 in 1548, 'for lack of raine;[7] and again, in 1557, when prices
1566 were very high.[8] Nine years later, in 1566, after a very rainy spring 'the summer was dry and the autumn almost rainless.'[9]

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1. Thornton.
2. Maitland.
3. Stow.
4. Thornton.
5. Nature, 1930.
6. Ibid.
7. W.C.
8. Holinshed. C.
9. Nature, 1930.

A curious outburst of mild weather, after a summer that
had been famous for inundations and hailstorms, came at the end
1573 of 1573, and in the early days of 1573/4. 'From the beginning
1573/4 of November, until fourteen days of Candlemas, the season was
so pleasant and fair, without frost or any snow to speak of,
that their appeared leaves upon hawthorns and plum trees before
Christmas; and the cuckow [sic] was heard singing and also
seen[1] before Christmas.[2]' Droughts seem peculiarly common in
the sixteenth century. There was the end of one on 21
1578 September, 1578, when Dr. Dee records 'the first rayn that came
for many a day: all pasture abowt us was withered: rayn ....
none like Aprill showers.[3]' Three years later, there must have
1581 been a very dry autumn, for on 21 December, 1581, at Alrewas,
Staffordshire, the Trent was dried up for lack of rain;[4] and
1581/2 the following, 26 February, is said to have been 'a very fayr
calm warm day[5]'. The weather was, again, fine and seasonable
1587 in 1587, and, by 24 August, there had been 'a very quick and
timely harvest.[6]' There are, however, no further statements
of this kind until just before the century closed on 19 August,
1598 1598, when it is recorded that 'the weather for the new crops
remains splendid, and they are being carried very dry for the
most part. Corn is much cheaper in the country.[7]' So, too,
1601 in 1601 John Chamberlain writes from Ascot on 13 August 'I

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1. The present writer refuses to believe this.
2. O. and B. I. This reference to the cuckoo cannot be true.
3. Dr. J.D.
4. Nature, 1930.
5. Dr. J.D.
6. O. and B. I.
7. F.N.L.

shold tell you how forward we be in harvest, and what a drie season we have had till now of late, or what a dearth and scarsitie we have here of all manner fruit but specially plummes.[1]' Nor did this warmth cease for some time as on 8
1602 May, of the next year, Chamberlain records in London 'The weather growes here so warme that divers of our aldermen disrobe themselves and geve over theire cloakes.[2]' In the same spirit he writes again from London, on 2 October, 'I shold tell you that I never knew a later, nor with all a better or
1603 more plentifull harvest.[3]' A year afterwards, on 5 October, Lady Margaret Hoby at Hackners in Yorkshire says 'we had in our Gardens a second sommer .... I thinke the Like hath seldom binn seene: it is a great fruit yeare all over.[4]'

1604 [More likely 1603] The year after the accession of James I, [in March 1602/3] 'we had such a drought in all parts of England, that all grass in all places, yea, the best meadows by the river sides, were all burnt up, in such sort that all men thought it impossible that we should have any grass grow before the spring following. The very roots of the grass were generally withered away and dry.[5]' And yet it is interesting to notice that this was a very cold year.[6]
1607 'Unseasonably hot[7]' weather occurred again in March 1607; but in accordance with the tradition, of the English climate, the following winter was correspondingly bitingly cold.[8] The year

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1. C.L.C.S.
2. Ibid.
3. Ibid.
4. M.H.D.
5. W.Y.D.
6. F.P.W.
7. Ibid.
8. Thornton.

1609 was typically English. The hay crop was ruined by drought;[1] but in August the weather was so wet that the corn-crops lay rotting in the fields.[2] Once again, however, in December the weather was unusually dry.[3] What we expect and hope for so often in the English climate proves topsy-turvey.

1611 The spring of 1611, was such a dry one 'as never was before seen or heard of. Yet corn proved reasonably good this year.[4]'

1615 This drought, however, was nothing like as bad as that of 1615. 'This yeare, after the great Snowe, followed a great Drought which continued the most part of the Sommer.[5]' It was, indeed a most unusually dry season, for there was no rain from 25 March, to 2 May, from 3 May to 18 June, and from 19 June to 4 August.[6]

1617 'Extreame heat occurred again on 25 July, 1617, at Whalley; and on 16 August, at Houghton it was so 'verie hott', that James I, had to give up hunting. Although the 22 August, was described as 'a faire day', it cannot have been a good summer in Lancashire, as it was not until that date that all the hay was got in, and it is spoken of as 'deare'[7].

1624 The summer of 1624, was 'unusually hot and dry .... the fruit crops abundant'[8], and, another record asserts that it was 'a hot and dry parching summer'[9], and these characteristics were

1624/5 carried on into the following spring which was 'unseasonably

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1. Col. S.P. Ven. 1607. 10.
2. F.P.W.
3. *Ibid.*
4. W.Y.D.
5. Quoted by Cox.
6. Cox.
7. N.A.J.
8. F.P.W.
9. Bradwell S.

1625 warm.[1]' The April, however, of 1625 was 'healthful', and there was a fine show of blossom[2]; but the summer that followed, proved a wet one. So, too, the unexpected happened in 1630. The Earl of Exeter wrote from London on 23 June, 'wee have a heate here that make us beleeve wee ar ether in Spaine or Italie.[3]'

1630 It would seem that, however different the constitutional position of England's King under Charles I, was from that of George V, the climate during the reigns of the two sovereigns is very much the same, sometimes hot when it was resonable to hope for cold; and often cold when warmth might have been expected.

1634 The year 1634 had a very hot summer as proved by 'A summer Sermon .... preached in the Cathedrall Church of St. Pauls in London on the last Sonday of Trinity Terme in the afternoone, being a time of extraordinary heat and drought', by John Gore Rector of Wendenlofts in Essex.[4] In fact this year and that of

1635,1636 1635, in Cheshire, and that again of 1636, in London, were regarded as remarkable and delightful for their true summer weather. In the first year there was, 'fair summerlike weather & the wayes very fair'[5], right up to November. During the period, March to July, 1635, there 'was no rayne at all; but very hot weather which burnt up the grass in most fields & prevented many, from sowing barley & much that was sown came not up.[6]' According to Evelyn, the year 1636, was 'extremely dry'.[7] In addition to

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1. F.P.W.
2. Taylor, The Peaceful Sommer.
3. Hist. MSS. Com. 55.
4. Pub. 1635. B.N.C. Lib.
5. Hall.
6. Ibid.
7. J.E.D.

the fine summers of these three years, so also, the next two,
1637/8 1637 and 1638, must have had their good points; in the June of the former, there was some rather exceptional weather about the end of the month, when, 'very good rye & wheat began to be reaped'[1], and, in the latter year, 'in Time of the Harvest, which was an extreme Hot Time, many People then at Work in the Fields at Adlington, in the Upper Part of the Country [Northamptonshire] fell sick, and some of the dy'd. So remarkable was the Accident, that their Minister .... thought fit to note it in the Register'.[2] The October, too, of this year, must have had some bright weather as Lady Brilliana Harvey, writes on the 25th, 'we have had fair weather sence you went'[3], but this statement would, certainly, lead one to suppose that there had been a wet season before.

These warm periods were not to last, and it is not until
1643 1643, that there is another record of pleasant weather, though in this case the heat upset the morale of the Parliamentary army. That year, 2 April must have been a very unusual day, when Thomas Fairfax was marching across Seacroft Moor, about five miles from Leeds. Nothing could stop his troops seeking drink 'it being an exceeding hot day', with the result that the Royalists realizing the disorder charged 'both in Flank and Rear' and sent the pot-valiant flying helter-skelter into Leeds.[4]
1644 The night after the battle of Marston Moor, 2 July, 1644, must

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1. J.W.D. and C.
2. Morton.
3. Lady B.H.
4. Fairfax M.

have been fine, and not, for during the day women from the neighbouring villages carried up pails of water to the soldiers on the hill;[1] and it was a clear summer night when 'the moone with her light' helped the Parliamentarians in the pursuit of the King's troops up to the gates of York.[2] Mid August and
1647 October, were fine in 1647, the latter being described as 'very faire and wholesome'.[3] This was carried into January, 1647/8 'This month .... was dry, and open, and warme, and free from winde even to the admiracion of persons; roses leaved out; fruite trees beginning to shoote out and so apricockes more, hedges budding out, gooseberries had little leaves on them.[4]'
1648 This, needless to say, was very exceptional. On 8 May, 1648 there is the entry, 'ever since Wednesday we have had very sweet wether, wch. hath maid our fields look lovely, the Lord continue his goodness to us'.[5] But, the rest of the year was very unattractive.

A somewhat embarassing accident, owing to the heat, happened
1652 to Evelyn, on 11 June, 1652. 'The weather being hot', he says, 'I rode negligently'. The result was that he proved an easy prey to robbers; he had, however, the satisfaction in the end of recovering most of what he had lost.[6] Two years later, on
1654 5 July, 1654, he again writes, of having 'arrived at Deptford .... in the extremity of heat,'[7] but it was only a flash, for he speaks

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1. T. and K.
2. Harl. MSS. 166, 87.
3. R.J.D.
4. Ibid.
5. Rev. H.B. Glympton.
6. J.E.D.
7. Ibid.

of the weather being very 'bad in August.'[1] It was, apparently,
1656 too hot and dry for his pleasure, on 7 July, 1656, for he began his 'journey to see some parts of the north-east of England; but the weather was so excessive hot and dusty', that he was obliged to shorten his progress.[2]

1660 During the year 1660, Samuel Pepys has little to say of warm or seasonable weather, though, there must have been more than the few occasions to which he refers. He wished himself in Hyde Park, on 1 May, 'it being a very pleasant day'[3]; and, on the 24th, he writes of 'most glorious weather'[4]; but often that he records a great deal of rain and cold. On the other
1660/1 hand, on 21 January, 1660/1, the weather was, obviously, unusually mild. 'It is strange', he says, 'what weather we have had all the winter; no cold at all; but the ways are dusty and the flyes fly up and down; and the rose bushes are in full
1661 leaves[5]; such a time of year was never known in the world before.'[6] The remainder of the year, however, may best be described, as a
1661/2 contemporary did, as 'sad weather'[7]. The following January, was as mild as its predecessor, and on the 15th, Pepys says, it had 'hitherto been summer weather .... both as to warmth and every other thing, just as if it were the middle of May or June'[8]. This mildness was not confined to London or its neighbourhood,

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1. Ibid.
2. Ibid.
3. S.P.D.
4. Ibid.
5. Some rambler roses were in leaf in Oxford on 21 January, 1932.
6. S.P.D.
7. H.N.D.
8. S.P.D.

'for in most northern parts, being .... as warm as Midsummer in some years.[1]' Nevertheless it turned out to be a year of storms, though there were some fine days, as in Manchester, on Thursday, 8 May, when Newcome and his wife 'supt in the garden'[2], or, on Wednesday, the 21st, when Charles II married Catherine of Braganza on 'a lovely day of early summer'[3], or, on 3 August, in London, when Pepys records 'fine weather.[4]' The following

1662/3 spring, or part of it, was also mild, because on 15 March, 1662/3, Pepys writes, 'This day the weather, which of late has been very hot and fair, turns very wet and cold.[5]' The next hot day

1663 entered by the diarist was 5 May, 1663, and he says, 'It has been this afternoon very hot and this evening also, and about 11 at night it fell a thundering'[6]. On the 18th, it was fine in London[7]; on the 26th, it was a fine evening in Manchester, as Newcome played bowls; and it was also fine on 1 June, as he was 'in the bowlinge green all ye afternoone', and, again on 3 July as he 'walked in the parsonage garden.[8]' The 13th, in London was 'a most pleasant and warm day', and on the 26th, it was, again, 'a warm day', still more so on the 27th, when it is said to have been, 'a much warmer day than yesterday'[9]. It was fine in London on 3 and 26 August[10], and in Manchester on 15 and 23 September[11]. On the latter day it was also fine in London, and

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1. J.E.D.
2. H.N.D.
3. A.B.
4. S.P.D.
5. Ibid.
6. Ibid.
7. Ibid.
8. H.N.D.
9. S.P.D.
10. Ibid.
11. H.N.D.

Pepys 'walked' in his garden.[1] The autumn, however, was windy, and December was cold until the 10th, when the weather became 'pretty warm'[2] again, but this did not last.

Dr. Wallis, at Oxford, writes of 'a time of long settled
1664 fine weather', on 22 June, 1664.[3] This, however, does not seem to have been the case in London, until the 28th, when Pepys, 'put on a half-shirt, first this summer, it being very hot.'[4] This heat wave continued until August, but not later, and it
1665 proved a very damp autumn. The month of May, 1665, seems to have been very delightful, but its geniality became too excessive in the next month, and 7 June, was, according to Pepys, the 'hottest day that ever I felt in my life, and it is confessed as, by all other people, the hottest day they ever knew in England, in the beginning of June.'[5] It was equally fine weather in Yorkshire between the 10th, and the 18th;[6] and the plague at Scarborough, that year, 'was preceded by such a drought that the meadows were parched, burnt up and barren as the highways'.[7] In London, there was not, for weeks together, a breath of wind, and 'there was such a general calm and Serenity of weather, as if both Wind and Rain had been expelled the Kingdom.'[8] And so it was that Pepys could write, on 11 July, 'hot beyond bearing'; and five days later, 'most extraordinary

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1. S.P.D.
2. Ibid.
3. Phil. Trans. 1716.
4. S.P.D.
5. Ibid.
6. H.N.A.
7. Hinderwell.
8. Maitland.

hot that ever I knew it.'[1] And all the time the Angel of Death stalked through the City.

1665/6 The following spring was certainly most remarkable for unusual dryness. From 10 February to 19 March, at Oxford, no rain fell;[2] and during that time, in London, Pepys shows that it

1666 was fine for he 'walked in the garden.'[3] The end of April was famous for 'mighty hot weather.'[4] On 5 May, it was fine and a good moon, on the 10th, it was 'wondrous hot'[5], after which the early summer was broken by thunder storms until June, when it was dry again. From the 16th, to the 20th, it was 'mighty hot'; on the 26th, however, 'after a long drowth we had a good shower of rain, but it will not signify much if no more come'[6]. Little, if any more did come, and there was true summer weather in early July. The 7th, 'proved the hottest night that ever I was in in my life'[7], and then, at last, the rain followed. But on the 15th, it was 'mighty hot', and, infact, so much so, that Pepys, always desirous of being most correct, fell from his would-be high estate and, actually, went to sleep on the grass in the Park 'with the canaille'[8]. Terrible!. Writing of the same day Joscelin says 'a very hot season: plague rageth at Braintree'[9]. The rest of July and all August, with very few breaks were fine and warm. It is recorded for the North West of England, on 20 August, that 'it was a great drought that sumer'; and all the

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1. S.P.D.
2. A.W. <u>Cf</u>. R.J.D.
3. S.P.D.
4. <u>Ibid</u>.
5. <u>Ibid</u>.
6. <u>Ibid</u>.
7. <u>Ibid</u>.
8. <u>Ibid</u>.
9. R.J.D.

wheat was got in by that date.[1] Wood, writing of Oxford, says, 'this year a dry ... Summer: rivers almost dry, rivulets quite drye .... to the great impoverishment of the boatmen'.[2] He means, by this, that as there was at that time, no method of regulating the Thames, in a dry season, the river was too shallow even for row-boats. It was, undoubtedly, a bad time and what was worse the drought was an addition to the horrors and disasters of the Great Fire of London, on 3 September, when the dried woodwork, of which so many houses were composed, was fanned into raging sheets of flame, 'by a fierce East wind'.[3] Well might poor terrified Evelyn say, 'London was but is no more'.[4] The weather changed later on, and it is again from Evelyn that we hear, on 21 October, 'This season, after so long and extra-ordinary drought in August and September, as if preparatory for the dreadful fire, was so wet and rainy as many feared an ensuing famine.[5]'

1666/7 The ups and downs of the English climate will never cease to excite wonder. The early days of January, 1666/7 were as cold as cold could be, and yet, on the 27th, Pepys writes, 'we home by water, fine moonshine and warm night, it having also been a very summer's day for warmth'; and three days later, he walked 'home about eight at night .... and so into the garden and ... sang.[6]' But February and March, taught him that it could be very cold, though the 16th, of the latter month, was

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1. L.G.L.C.
2. A.W.
3. J.E.D.
4. Ibid.
5. Ibid.
6. S.P.D.

1667 'warm again'. The beginning of April was intensely cold;[1] but the 12th, was 'most sweet weather to walk', and so, too, on the 28th, when the day was 'mighty pleasant'.[2] By 23 May, it was really hot, and on Sunday, the 26th, 'it being exceeding hot all night .... I began to leave off my waistcoat this year.' The next day was a 'sweet day', and most of June was 'fine'.[3] Then, for a month at Oxford, from Sunday, 30 June to Sunday, 27 July, there was 'such hot weather that it is not to be remembered by man. People die with drinking small drink. Severall scholars mad, with heat and strong drink. People ready to faynt in the streets. Noe rain.'[4] The same drought was in Lancashire and Cheshire;[5] and then, at last, it rained, on 27 July, 'all day to our great joy it not having rained, I think, this month before, so the ground was everywhere so burned and dry; and no travelling in the road or streets of London for dust.'[6] The drought started again, however, and continued until Friday, 9 August.[7] After that, though generally fair till mid-September, it was frequently cold,[8] which it remained, with mists, until the end of the year.

The cold, which continued into the next year, did not

1667/8 prevent Wood saying that the spring was so forward in 1667/8, 'that in the beginning' of February, it was, 'forwarder then

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1. J.E.D.
2. S.P.D.
3. Ibid.
4. A.W.
5. L.G.L.C.
6. S.P.D.
7. A.W.
8. S.P.D.

1668 [sic] in the latter end of April, the last year.[1]' It was 'very hot' on 25 April; but, taken as a whole it was a poor Spring, until 15 July, when it became 'wonderful hot all day and night', which heat continued for ten days. It was a good summer, most of August was warm and bright, and on 5 September Joscelin[2] writes the 'Drought & heat continues'. He says much the same on the 12th; and on the 27th, Pepys records that he walked in Pell Mell [sic] it being most summer weather that ever was seen.[3]' As usual, however, it all changed and we hear nothing of 'verie
1668/9 good spring weather' in 1668/9, until 11 to 20 March.[4] During this week, Pepys walked in the garden on the 14th, 'the weather being mighty temperate'.[5] Then came the snow to the 'killing of yong fruit and flowers'[6]; and there was no more 'pleasant'
1669 weather until 25 April.[7] The first part of May was fine, and on the 9th, 'it being very hot weather, so hot as to make' Pepys 'break out here and there'.[8] Little or nothing more can be said in favour of this year, nor of the next three or four, except that there was one warm day at least on 27 July, 1671
1671 when Wood writes 'the streets and all places in and about Oxon [were] covered with flyes very small ... 'Twas soultry and hot'[9];
1672 and another on 17 June, 1672, when Lady Mary Bertie writes from

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1. A.W.
2. R.J.D.
3. S.P.D.
4. A.W.
5. S.P.D.
6. A.W.
7. S.P.D.
8. Ibid.
9. A.W.

Westminster, 'because the weather was hot we danced ... in the fore court ... in the garden and ... in the Hall.'[1]

There was fine weather for about three weeks, in September,
1674 1674.[2] But still more remarkable conditions on 3 January,
1674/5 1674/5 when Joscelin says 'warme dry calme Christmas, grasse springing, herbes budding, birds singing'.[3] The next year had 'a very drie autumn: a dry winter: little frost, no rain.'[4] This lack of rain caused the rivers to be almost dry. 'No barges able (or scarce able) to go to London'.[5] This was
1675/6 followed by exceptionally mild weather, in February, 1675/6, but there was some rain at the beginning of the month. It was, however, as a whole 'a drie spring' and a 'very drie Lent'.
1676 March and April continued with scarcity of rain, but the summer varied. In Oxford, there was a drought: in Wales, there was 'so much wet .... that they pray for drie weather'.[6] In Lancashire and Cheshire the summer had been so dry that wheat was 'led'[7] on 21 July.[8]

1677/8 In August and September, in both the years 1677 and 1678, there was extreme heat, in both cases, the weather was unpleasant before and after, although the winter of the latter,
1678/9 extending up to 28 February, 1678/9, was described as 'never such a drie winter in the memory of man'.[9] Cold, however,

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1. Hist. MSS. Com. 24. II.
2. A.W.
3. R.J.D.
4. A.W.
5. Ibid.
6. Ibid.
7. This is a north country term for 'cartid'.
8. L.G.L.C.
9. A.W.

followed with snow. Nothing is recorded as to mildness, or as to Nature producing before her accustomed time, until 1 May,
1680 1680, when in Lancashire 'hathorn [hawthorn] was fair in blossom, oake trees feare [fair] leaved, pears, plums, cheries and apples all knitt.'[1] Here, indeed, apparently, was a case of the oak before the ash;[2] but the records of the next month do not show that England had 'a splash', but rather a 'soak', for Wood says, 'all the month of May' was wet, and that there were many rainy
1681 days in June and later.[3] The next year, there was only a 'splash', for from mid April to 14 August, in Lancashire and Cheshire, there 'was an extraordinary long drought'.[4] Wood says on 19 April, 'the weather grew extreame hot beyond the memory of man';[5] and Evelyn writes on the 29th, 'but one shower of rain all this month.'[6] By 2 May, the hot weather became a little cooler, 'yet no raine', and on the 7th, there was hardly enough rain 'to lay the dust', and, again, the same on the 21st. On 2 June, it 'rained at 4 in the afternoon for an hour or there abouts', and there was a little on the 5th, and 6th.[7] On the 12th, it still continued 'so great a drought as had ever been known in England, and it was said to be universal'.[8] There was 'a little more raine' on the 15th, on the 20th, 'and so after, every day for a week, good plentie of raine'. But it had been

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1. L.G.L.C.
2. The oak before the ash, we shall have a splash: the ash before the oak, we shall have a soak.
3. A.W.
4. L.G.L.C.
5. A.W.
6. J.E.D.
7. A.W.
8. J.E.D.

a terrible time for the farmers, 'especially in the latter end of May and begininge of June graine was extreame deare .... cattle were reduced ... to eat the leaves of trees. The ground was never seen so russet in May. Boatmen [at Oxford] reduced to penury for want of water[1].'

1681/2 The November and December, of 1681, and January, of 1681/2, probably hold the record for mildness for these three consecutive months. During November, and up to 10 December it was 'drie and verie mild weather: no frost'. On the 10th, and 11th, there was muche raine yet mild'. Wood gathered ears of rye on the 16th, 'and the corn ... was so high and forward that before that time they were forced to graze it or mow it. In ... Dec. and Jan. were garden pees in blossom[2].'

1683/4 After the great frost of 1683/4, the following summer was a good one. Writing from Whitby on 3 July, 1684 a correspondent says to Abigail Harley 'we got here last Saturday. It was so hot and dusty that we always travelled early and late .... This hot and dry weather makes all waters much crowded.[3]' In Lancashire some crops were harvested during July[4], and on the 28th, it is stated that the weather was 'extreme hot and people

1685 so busie in their harvest.[5]' During the spring of 1685, there was a drought in London and neighbourhood. On 24 May, Evelyn writes, 'we had hitherto not any rain for many months, so as the

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1. A.W.
2. Ibid.
3. Hist. MSS. Com. 29. III.
4. L.G.L.C.
5. A.M.L.

caterpillars, have already devoured all the winter fruit through the whole land, and even killed several greater old trees'; and this drought continued, at least, to 17 June.[1] From then
1685/6 onwards there was plenty of rain.[2] The spring, following, was very mild. On 20 February, 'spring flowers were sold in Oxford marcat ... Plum trees begin to blossom in the latter end of Jan. and beginning of Feb.'[3]

No reference to conspicuous heat occurs again until, 15
1687 August, 1687, when in Yorkshire, the season was dry and the
1690 weather very hot;[4] or, again, on a certain Sunday in July,1690, when the Earl of Ailesbury says 'it was one of the hottest days possible .... I went in a Sedans with the curtains drawn and the heat overcame me'.[5] This unusual high temperature occurred once more in the South on, 26 July, 1691,[6] and, between 8 and 30 November, when it was said to be 'an extraordinary dry and warm season without frost, like a new spring, such as had not
1692/2 been known for many years.'[7] The next spring was cold; but that of 1692/3 was mild.[8] 'Hitherto', writes Evelyn, 'an
1692/3 exceeding warm winter, such as has seldom been known, and postending an unprosperous spring as to the fruits of the earth: our climate requires more cold and winterly weather.'[9] The Earl

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1. J.E.D.
2. Ibid, Cf. A.W.
3. A.W.
4. Phil. Trans. IV. & A. de la P.D.
5. M.Th. E. of A.
6. J.E.D.
7. Ibid.
8. Ibid.
9. Ibid.

of Ailesbury was struck by the same warmth; in February, he writes 'we had, for a week, weather like summer, with sunshine and no frost .... I frequented the Mall in the Park'.[1] This, however, did not last, and there was 'extraordinary deep snow' on the 26th.[2]

The two years that seem to have been some of the pleasantest
1669/1700 of the century were, 1699 and 1700. From the beginning of June, or perhaps even earlier, in May, there was something of a drought, which was broken, for the moment, on the 11th. The heat then became intense, and on the 25th, Evelyn writes, 'the heat has become so great, almost all this month, that I do not remember to have felt much greater in Italy, and this, after a winter, the wettest though not the coldest, that I remember for fifty years last past.'[3] On the 28th, John Thornton wrote to Lady Roos from London 'we have not had such a summer these fifteen years. There is excellent corn everywhere, and farmers say that wheat will fall to 5s. a bushel, or lower. Apples are plentiful in most parts, and cherries in abundance, but no apricots.'[4] Perhaps it was because of this 'abundance' that the school-boy Ralph Verney was warned on 3 July to be careful 'this hot weather & frute being now in season.'[5] On the 18th Lady Gardiner wrote to Sir John Verney 'the weather is so hot & dry that the grass is burnt up & the cattill feeds on

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1. M.T. E. of A.
2. J.E.D.
3. Ibid.
4. Hist. MS. Com. 24. II.
5. V.L.

dry meate & graine[1]. The drought and the heat continued, though there were 'seasonable showers' on 23 July; and on 21 October, Evelyn again writes, 'after an unusual and pleasant season we were surprised with a very sharp frost.[2]' It may have been sharp, but it was short, and the winter from the beginning of December to the middle of January, 1699/1700, was 'calm bright and warm as in the middle of April.[3]' February was mild and free from winds, and March was like April for 'warmth and mildness', and 'exceeding pleasant'[4]. Writing on
1700 24 April, he speaks of 'a most glorious spring with hope of an abundance of fruit of all kinds and a propitious year'; and on 2 June, it is 'a sweet season with a mixture of refreshing showers.[5]' What more could an Englishman hope for? But by 7 July it had evidently become too hot, for Stephen Wallis, gamekeeper wrote to Sir John Verney in London, 'I am glad the Rabbets did not stink, I was afraid they would the weather was so hot.[6]'

A great dearth, no considerable rain having fallen for
1701 some months, ended, on 17 May, 1701 in plentiful showers.[7] But the warmth started again about 3 June when Lord Chesterfield wrote 'The small-pox is very much in town, which now doth begin to be hot, and the cries of peas, cherries and strawberries do

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1. Ibid.
2. J.E.D.
3. Ibid.
4. Ibid.
5. Ibid.
6. V.L.
7. Ibid.

tell me that it is time for me to be at Bretby.'[1] The following summer, on 21 May, 1702, he complains of 'the want of rain' and that the fruit is being dried up.[2] The beginning of August was very hot, especially the 6th, 'vulgarly called Hot Wednesday'[3], and many persons died from the heat; but a thunderstorm broke this torrid period, and 'the weather changed from heat, not much less than in Italy or Spain, for some few days to wet.'[4]

1704 It 'was a remarkably Hot and Dry Summer' in 1704[5]; on 14 May, Lady Cave wrote to Lord Fennauagh that they 'had a very dusty Journey to Claydon'. And two days later he replied 'The Town is not only empty but excessive dusty and hott, so that I am quite weary of the place.' Again he writes on 17 August 'I am glad to hear you are all well after your hot journey, for I am sincible that a glass chariot is an inconvenient way of travelling in the month of August, but 'tis Beauish, and that makes Amends to your sex.'[6] In September Daniel Defoe wrote to Robert Harley from Bury St. Edmunds, on the 28th, saying 'The extraordinary goodness of the season, there having been no

1705 rain these three weeks.'[7] The June, of the next year, was 'very dry and hot'[8]; and on 30 July Defoe wrote from Crediton 'I reached this town yesterday, though extremely fatigued with

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1. Hist. MS. Com. 23. II.
2. Ibid. 23 III.
3. Morton.
4. J.E.D.
5. Morton.
6. V.L.
7. Hist. MSS. Com. 29. IV.
8. J.E.D.

1707 the violent heat.'[1] 'Hot Tuesday' was on 8 July, 1707, during which there was no wind, and several persons and horses died.

1710 In London the early summer of 1710 was not good, but writing from Oxford on 22 July, Dr. Stratford says 'I brought an ugly cold with me from London .... a little exercise this hot weather has been instead of a bagnio and I hope cured it'[2]; the month of September, was also very fine and dry.[3]

It would appear from Dean Swift's Journal, that parts of

1711 May and June, 1711, were unusually hot. On 31 May, he writes, 'I was so hot this morning with my walk that I resolve to do so no more during this violent burning weather. It is comical, that now we happen to have such heat to ripen the fruit, there has been the greatest blast that was ever known, and almost all the fruit is despaired of.'[4] The Dean was so overcome with the heat on 3 June, that he thought 'the weather is mad'. On the 4th, he says, 'this weather is insupportable,' on the 6th, he writes, 'nothing makes me so excessively peevish as hot weather ... I walked home, and was ... so miserably hot, that I was in as perfect a passion as ever I was in my life at the greatest affront or provocation'. The next day is so hot that he is worried about himself, and complains that 'this abominable hot weather will force me to eat or drink something that will do me hurt.'[5] A shower, however, cooled the air, and Swift escaped

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1. Hist. MSS. Com. 29. IV.
2. Ibid. VII. 10.
3. J.S.J.S.
4. Ibid.
5. Ibid.

another outburst of passion, or any internal disturbance. The
1712 following June, he says, on the 16th, that there was refreshing rain, 'we were dead for want of rain .... no field looked green'; and on 17 July, he writes 'I am dead here with the hot weather.'[1] This gorial state of affairs lasted into November, and Dr. Stratford wrote to Lord Harley, 'I suppose this good weather
1713 tempts your Lordship to stay at Windsor.'[2] The autumn of 1713 was fine. At Penrith 'there have been but four or five rainy days .... since August 6; so that in memory of man there has not been a better harvest in this country'. At Windsor on 3 December it was 'mighty warm .... more than usual for the time of year.'[3]

1713/4 In Lancashire and Cheshire, the weather in January, 1713/4, is said to have been 'the greatest drought that hath been known'[4]; but no explanation is afforded; the year 1714 as a whole was reported to be remarkably fine and dry at Upminster[5]; and on 23 June, J. Digby wrote from Woodhouse to Lord Harley 'I have been once out with your hounds and notwithstanding the extreme heat and dryness of the weather we had a very fine chace.'[6] And there was throught the country excessive drought between
1716 February and August, 1716.[7]
1720 The spring of 1720, was very forward, and the summer very dry. In parts of Lancashire oats were harvested on 18 July[8]; and this was followed by a very green

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1. Ibid.
2. Hist. MSS. Com. 29. VII.
3. Ibid. V.
4. L.G.L.C.
5. Phil. Trans. IV.
6. Hist. MSS. Com. 29. V. Cf. V.L.
7. Nature, 1930 Cf. V.L.
8. L.G.L.C.

1720/1 winter[1] which extended into the January, of the next year, when a correspondent from London says on the 7th, 'I am told the violets are all out .... and everything green like April.' On the 9th, he says 'we have had no such thing hitherto as a winter .... The weather is and has been all along as warm as usual in April, no frosts, no snow, storms of wind with thunder

1723 and horrible lightnings in abundance.[2]' The summer, of 1723, was also remarkable for an extreme drought, which prevailed generally. In Yorkshire it was very marked, and at York, the waters of the Ouse were reduced to the base of the middle arch of Ousebridge, and the river-bed was completely dry for several yards round.[3]

1724/5 Two peculiarly fine days stand out in 1724/5. On 13 March, John Byron, in London, went 'to walk awhile, it being a charming fine day and warm'; but still more out of the common was 2 April, of which he writes 'we walked in the walks a little, but it was so hot that we could not endure it'.[4] This must, indeed, have been a record April day. Somewhat similar was 9

1727 April, 1727 when there was 'the finest weather possible and all thriving in gardens and fields.'[5] Another isolated day, that was curious, was 27 December, of the same year, in Yorkshire, when it is stated 'Here's fine weather for the sportsmen at

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1. Ibid. Cf. Hist. MSS. Com. 55.
2. Hist. MSS. Com. 55.
3. H.S.
4. J.B.R.
5. Hist. MSS. Com. 43.

Malton. I never remember so warm and mild a Xmas, which is lucky for us in these thin houses.[1]' These warm episodes continued and on 8 December, 1729, the Rev. William Butterfield wrote 'we could not have had finer weather for travelling nor ever was a finer season for the country known. The plows were all going in the fields and what corn is up looks well and the grass verdant.[2]' It is reported from London on 2 January,
1732/3 1732/3, 'we have had fine open weather the last week, which I hope has contributed to the sport at Malton'; and again on the 9th, it was said 'I never remember so mild a winter; we have hardly had one day's frost since I came.[3] It was also hot in
1737 July and September 1737,[4] but the rain came in October.[5]

The country seems to have been free from drought for a
1740 good many years, until 30 June, 1740 when Elizabeth, Lady North wrote to Lady Kaye from St. Donat's Castle and said 'I have not seen a single drop [of rain] since I left you [and] was choked with dust in our journey. This country threatens famine and not a bit of grass is to be seen. We have hot sun and cold
1746 winds'.[6] Similar things occurred in 1746, when 'the grass was withered in the fields, leaves fell prematurely from the trees and neither rain nor dew fell for several months.[7]' This,

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1. Ibid.
2. V.L.
3. Ibid.
4. Hist. MS. 30. I.
5. Ibid. 19.
6. Ibid. 20. III.
7. H.S.

however, was broken by a tremendous storm on Midsummer Day. Sometime again elapsed before there was a recurrence of this unusual heat. It appeared as if there might have been a hot
1750 spell in Essex, in July, 1750, when Horace Walpole, writes 'had eight of the hottest days ever were felt; they say, some degrees beyond the hottest in the East Indies, and that the Thames was more so than the hot well at Bristol'[1] but nothing more came of this, and England suffered no drought, though it should be noticed that on 20 September, Walpole says 'the season is still so fine that I, yesterday, in Kensington town saw a horse-chestnut in second bloom.'[2] Another day, which looked like a long period of heat, but proved not much more than the
1752 day, itself, was Friday, 12 June, 1752, when Wesley writes 'So hot a day as this I do not remember to have felt in England'[3];
1753 but as he said this, or very much the same, on 31 May, 1753, when 'the sun was burning hot ... the afternoon was the hottest I ever remember in England'[4], one must regard the saying as a 'saying' and nothing more. Nor can one help feeling that Walpole was exaggerating, when he writes, on Wednesday, 11 June 'we have had an extraordinary drought, no grass, no leaves, no flowers; not a white-rose for the festival of yesterday'[5]. [The Pretender's birthday]. This statement, of course, may be true of Twickenham, though from other sources, there is evidence

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1. H.W.L.
2. *Ibid.*
3. J.W.J.
4. *Ibid.*
5. H.W.L.

of a fair quantity of rain in various parts of the country. Dr. John Waugh, however, writing to Lord Carlisle, from Cumberland says 'we have here, for once, the better of Yorkshire - a most prodigious fine summer, and, I think, great appearance of plenty. Corn everywhere looks mighty well, though the straw is short. The hay .... is well grown, and never was
1757 better got in.[1]' One one occasion, between 11 and 14 July, 1757, Wesley does try to give some scientific proof of his assertions as to the heat. He says that these four days while riding in the neighbourhood of Robin Hood's Bay, 'were the hottest I ever knew in England. A gentleman, who formerly traded to Guinea, assured me that the spirits in his thermometer, (the same he had when abroad), rose as high as they did within a few degrees of the line.[2]' When he was at Helston, on Thursday, 15 September, he thought 'the sun was near as hot as it was at Midsummer[3]'; but on this occasion, he had no obliging 'gentleman with a thermometer.'

1759 Everything in the February, of 1759, was very forward. On the 9th, Walpole says 'we are extinguishing fires and panting for breath. Shrubs and flowers and blossoms are all in their pride.[4]' On the 10th, at Caversham, there was a nest of young thrushes; and at Bishop Wramouth, there were 'gooseberries as large as peas upon the bushes.[5]' This mild weather continued,

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1. Hist. MSS. Com. 42.
2. J.W.J.
3. <u>Ibid.</u>
4. H.W.L.
5. A.R.

and on Saturday, 3 March, at Colchester, it was 'a mild delightful day'[1]; but it was all destined to change into storms and sharp frosts. And yet, at the end of this month, at Worcester, apricots were said to be 'as large as filberts.'[2] But after that 'fair and fine changing to rain', until, Monday, 2 July, at Durham, 'the sun scorching', and on the 6th, near Yarm, 'the heat of the day was hardly to be borne', and on the 7th, at Hutton Rudby, 'the sun shining near as hot as it used to do in Georgia.'[3]

For mildness that might be called starting, and, perhaps,
1760 unbelievable, the December of 1760, must, indeed be pre-eminent. It is asserted that, on the 21st, at Gidney in Lincolnshire, there was a raven's nest with young ones in it, fully fledged. If this is true it means that there must have been a considerable period of spring-like weather as far back as the previous November, if not before. On the 30th, the season is said to be so mild that many pear trees, near London, were in blossom, others were bursting into leaf, and primroses were out in the woods and daisies in the fields.[4] Of this remarkable story, one can, perhaps, accept the primroses, but as for the other 'portents' they are a little incredible. And yet, if it is impossible to believe there, is it any more possible to accept
1763 the examples of mildness in the autumn of 1763?. In the September of that year, there are said to have been, an

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1. J.W.J.
2. A.R.
3. J.W.J.
4. A.R.

apple-tree in blossom at Bridgewater, a pear-tree bearing a second crop at Warminster, and an elder-tree at Weston, Yorkshire, with ripe berries, green berries and flowers in full bloom, and on 13 November, at Castle Sowerby, Cumberland, a swarm of bees.[1]

1766 On Thursday, 7 August, 1766, Wesley again records great heat on his way to Horbury. 'We had' he says 'as hot a day as most I have known in Geogia. However about noon I rode to Horbury, but it was unpracticable to preach abroad, so we returned into the new house; but this, too, was as hot as an oven.'[2] Once more, in this year, the reader's credibility is much taxed, and one is a little inclined to think, that the leg of the good editer of the Annual Register is being pulled, by a correspondent who desires to see how much he will accept. Whether true or untrue the record states that December was very mild. The trees were in leaf as green as May [this is beyond anything]; and at Worcester there were young gooseberries on the bushes, and at St. Giles [?] white roses in bloom; but, above all, a dozen ripe strawberries were gathered in a garden at York and fine mushrooms on Heworth Moor.[3]

A mild day, concerning which there can be no doubt as to
1768 the authenticity of the record, 26 November, 1768, is remarkable. Gilbert White says that it was very mild, and as a proof he

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1. Ibid.
2. J.W.J.
3. A.R.

states that a martin was seen in a sheltered bottom, 'the sun shone warm and the bird was hawking briskly after flies.'[1] It might be said, however, to alter an old phrase, 'one martin does not make a mild season', and, certainly, in this case the bird must have regretted its termerity in staying in treacherous England, as, a few days later, there were tempests and heavy rains. Similarly the swallows were trapped, so to speak, in

1770 April, 1770. Why they came so early is difficult to surmise, for that April was a 'severe season'[2], but appear they did on the 11th, five or six, or even more days in advance of their usual time, 'but they withdrew again' for a few days.[3] Not that that year was entirely without bright periods. On 5 July, at Dewsbury, the weather was fine: on the 13th, on the road from Lincoln to Hancastle, there was 'boiling sun', and 'violent heat'. The next day was another 'sultry day'; and at the end of the month and at the beginning of August, 'for five or six days this week the heat was as great as I remember in Georgia.' On the 20th, of the latter, the 'violent heat', is said to be 'continuing'[4]. The early days of October were 'a soft, dry, still season'[5], and, on Wednesday, the 24th, 'the sun was full warm.'[6]

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1. G.W. 1. XXI.
2. Ibid. 1. V.
3. Ibid. 1. VII.
4. J.W.J.
5. G.W. 1. XXXIII.
6. J.W.J.

For some time there was a succession of bad springs and disappointing summers. There was, apparently, isolated days of wondrous brightness, but it was this very unusual brightness that was the cause of record as compared with so much wet and
1772 gloom. At Duffield, on Tuesday, 23 June, 1772, it was 'extremely hot'[1]; in the west of England, during August, it was
1774 'very fine'[2] and on Sunday, 9 October, 1774, it was 'fair and
1775 mild'[3]. On 4 August, 1775, there was hot sun in which a large viper basked;[4] and on Saturday, 23 September, George Selwyn wrote 'The weather is now so fine that I am writing in my garden .... and I have ordered them to bring my dinner here, which I shall have on my grass plat, under an apple tree.[5]'
1777 The two days, 26 and 27 March, 1777 were very hot, 'so sultry that everybody complained', and 'the old tortoice, near Lewes, in Sussex, awakened and came forth out of its dormitory'[6]. It must be acknowledged that things did improve this year, as Walpole says on 29 September, 'I must make amende honorable to our summers, for though they arrive a la macarair, three months too late, they come in Eastern pomp and with southern gales, as if they were part of the riches we gather in India. I did not use to love September, with its betweenity of parched days and cold long evenings, but this has been all lustre and verdancy.[7]' The end of the following September was also summer like, at

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1. Ibid.
2. Hist. MS. Com. 42.
3. J.W.J.
4. G.W. l. XXXI.
5. Hist. MSS. Com. 42.
6. G.W. l. XXXVI.
7. H.W.L.

1778 least, in Bradford, Yorkshire, where it was 'a sultry hot day such as were several days of this month.'[1]

1779 The first three months of 1779, consisted of 'lovely weather ... such as the oldest man alive has not seen before;'[2] Walpole writes on 12 February, 'it is not enough here to bathe in the Thames. I was literally forced to throw off the quilt of my bed the night before last.'[3] Then came a storm, but on Friday, 26 March, the sun shone as hot as it usually does at Midsummer'[4], only, to be followed by a snowstorm in April. This year, however, there really was a summer to boast about. From Thursday, 1 July, there were 'eighteen or twenty days full as hot as any I remember in Georgia'[5]. In Norfolk there was considerable drought and on the 9th; it is reported that new hay is selling as much as £5 a waggon load.[6] The astoundingly hot week was from the 11th, to the 17th, when, in London, the highest temperatures were at 3 p.m. each day $86^{\circ}$, $78^{\circ}$, $80\frac{1}{2}^{\circ}$, $83^{\circ}$, $73^{\circ}$.[7] It was, also, extremely hot at Haverford West, on Sunday, 22 August, at Kidwelly, on the 24th, 'the sun was intensely hot'; at Bristol on the 29th, 'it was one of the hottest days I have known in England ... the sun shone without a cloud'.[8]

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1. J.W.J.
2. Ibid.
3. H.W.L.
4. J.W.J.
5. Ibid.
6. Hist. MSS. Com. 62.
7. A.R.
8. J.W.J.

1780/1 There were sultry days in 1780 and 1781. In the former, there was a very warm time at the beginning of June.[1] At Bath, on Friday, 11 August, 'the sultry heat' continued;[2] and on the same day John Dunning writes 'when the sun scorches, as it does at present, I feel it pleasant .... to live in the shade';[3] at Twickenham, on the 16th, Walpole says, 'my own little landscape is brown and parched ... this is the third year that our climate is growing as Asiatic as our government'.[4] In the latter year, on Wednesday, 2 May, at Salt Hill George Selwyn writes 'we have had the finest weather that ever was';[5] and at Whitehaven, on Sunday, 27 May, Wesley said the sun had 'intense heat',[6] and in the south, Gilbert White adds the interesting item that the summer was very hot, but there were no wasps,[7] for which every one must have been very thankful.

1783 By an unexplained misfortune the year 1783 was not free from wasps. The last two days of March and the first three of April were very warm, and Walpole on opening his window 'to the square this morning found a large wasp on the outside which soon flew away'.[8] This was a precursor of what was to come. At first, the summer was a poor one; but, on 8 July, Walpole again says, 'I am writing after midnight and panting for breath; the weather is wonderfully sultry';[9] and

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1. H.W.L.
2. J.W.J.
3. Hist. MSS. Com. 35.
4. H.W.L.
5. Hist. MSS. Com. 42.
6. J.W.J.
7. G.W. 1. LXIV.
8. H.W.L.
9. Ibid.

Wesley records that from the 8th, to the 11th, 'were as hot as midsummer days in Jamaica.'[1] Gilbert White sums up the warmth of the year, by saying, that it was hot and that often, in London, the temperature was 84°, and that their was a plague of wasps.[2]

1784 After cold and rain, and rain and cold, the summer of 1784 was a late one. August brought 'fine weather'[3]; and the 14th, at Tenby, according to Wesley was 'the hottest day we have had this summer.'[4] But the true summer came later still. On 7 September, Walpole writes, 'The summer is 'come at last .... dressed as fine as a birthday, though not with so many flowers at the head. In truth the sun is an old fool who apes the modern people of fashion by arriving too late; the day is going to bed before he makes his appearance, and one has scarce time to admire his embroidery of green and gold.'[5] Walpole was right this year. The summer had come too late and the corn

1788 was all 'water-souchy'[6]. The following autumn was different. On 2 November at Richmond it was fine and 'the country very

1789 agreeable.'[7] The summer of 1789 was on the whole fine with a

1790 wettish autumn;[8] and August and September 1790 were fair though the latter was sharp.[9]

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1. J.W.J.
2. G.W. 1. LXIV.
3. J.W.J.
4. Ibid.
5. H.W.L.
6. Ibid.
7. Hist. MSS. Com. 42.
8. Ibid.
9. Ibid.

1791 The spring of 1791, must have been something out of the common for Walpole writes on 15 April, 'I go to Strawberry tomorrow in this jubilee spring that comes but once in fifty years.'[1]

1792 A really serious drought occurred in 1792, when there were one hundred and three dry days.'[2] There was nothing quite like
1793 this the next year, but there were warm periods. Walpole writes, on 17 July, 'the excessive heat we have had for twelve complete days' has been great. 'I have enjoyed weather worthy of Africa ... the earth is covered with gardens and crops of grain .... My lawn is burnt and my peas and beans and roses and strawberries parched.'[3] He adds to this, on 6 September, 'I have railed at our summers .... this has been a superb one, and contrary to the practice of its predecessors, recovered its temper .... after the hardest showers of rain.'[4] Apparently, at this period, there was a run of true summers. Walpole
1794 wrote, on 22 July, 1794, 'I little thought that I should live to complain of the violence of an English summer, but this has been so torrid as to make me seriously ill.'[5] And, as a typical variation in the English climate, after this 'torrid' period, the long frost began at the end of the year. And yet, again, there were some balmy days in the next year. On
1795 Saturday, 4 April, 1795 when Caroline of Brunswick arrived to

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1. H.W.L.
2. A.R.
3. H.W.L.
4. Ibid.
5. Ibid.

marry that unpleasant personage George, Prince of Wales, 'each shore of the Thames was lined with sightseers' as 'the day was delightfully fine.'[1] And as the summer progressed the weather became better still. Lady Dorothy Hotham wrote on 25 July, 'The heat in London has for above six weeks been beyond whatever this Climate ever experienced for such a length of Time & till yesterday not a single Drop of Rain has fallen since the 1st of June, so that the Dust is intolerable, everybody gasping for Breath, & strong as I am by Nature I was under the necessity to lay with the sashes open.'[2]

For some years, afterwards, the weather does not seem to have been abnormal. Certainly there must have been a particu-
1800 larly fine day on 6 April, 1800 when Henry Dundas wrote to Lord Grenville from Wimbledon 'after .... the enjoyment of a very fine day, I assure you I have no disposition to go to town sooner than Tuesday'.[3] It must have been an exceptional summer, Canon Edward Wilson, writes from Binfield on 27 July, 'it has been with us 6 or 7 weeks of the finest weather that was ever seen. I have got in all my hay, 53 acres, without a drop of rain.'[4] And so in that September Dundas could again write 'The weather has been remarkably good since I came here' and on 25 October he says 'the weather is very fine.'[5] There were, occasionally,
1804 excessively hot days in September, 1804; in particular, the 11th,

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1. Sir E.P.
2. A.M.W.S.
3. Hist. MSS. Com. 30. VI.
4. W.A.S.
5. Hist. MSS. Com. 30. VI.

when the temperature was 80°, and 'the streets were as clear of pedestrians', as if it were midnight.[1] Another isolated week of
1807 note was the beginning of May, 1807;[2] and, because of what
1808 happened, the first part of January, 1808, should also be remarked for its 'mild' and 'good' weather.[3] This was a fine start, and the summer that followed was memorable for the heat between 11 and 19 July. In the neighbourhood of London, a large number of sheep died from the effects of the sun. At Longborough, on Wednesday, the 13th, 'the heat was so intense that in consequence thereof many People died, especially they that were at work in the fields, also a great number of Horses, particularly coach-horses.[4]' At Gainsborough, on the same day, the temperature was 94°, and in Kent 98°. In London, on the 14th, the highest record in the sun was 147°. The extreme, in the shade, registered that week at James Street, Buckingham Gate, by a thermometer with a northern aspect was 94° on the 18th. The next day it was 92°.[5] After severe thunderstorms, it is again recorded on 3 August that 'the weather was very warm'.[6]

1814 The weather, at Worthing, was 'beautiful', on 7 March, 1814, after the great frost had broken; and, the next day, 'the sun shone gaily'.[7] April was famous for 'fine weather';[8] and 21-28

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1. A.R.
2. W.D.D.
3. Ibid.
4. C.G.H.M. and G.R.
5. F.D.
6. W.D.D. Cf. Ch. III.
7. L.M.W.D.
8. W.D.D.

1815 July, were 'remarkably hot'.[1] The summer of 1815 was very hot.[2] By 16 September, it is stated, that the drought had now prevailed for a long time, that there was no water in the ponds, that there was little or no grass, that owing to this, cattle were being fed artificially, and therefore were being sent to Market in large numbers, and that prices were very low.[3] A somewhat similar
1818 summer was experienced in 1818, when the warmth was far beyond the ordinary;[4] and from May to September there was such a terrible drought that preparation began to be made forwarding off a famine.[5] It was this kind of weather that caused General Dyott to write, on 1 September, 'The ground was so dry and the weather so hot we had no sport though plenty of birds.'[6] It must have been an extraordinary year, for all the month of November, in Staffordshire, 'has been more like April and May
1819 than the autumn.'[7] There was promise of the same in 1819 when Scott wrote on 18 January, 'never was there such a season, flowers springing, birds singing, grubs eating the wheat as if it was the end of May.'[8] There was rain in January and February 1820, but the summer was a very dry one and it is recorded on 28 August that the hounds in Yorkshire, when cubbing, were owing to this long period of aridity 'almost choked'.[9] Before this

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1. Hall.
2. F.D.
3. A.R.
4. <u>Nature</u>, 1930.
5. W.H.R.C.
6. W.D.D.
7. Ibid.
8. Sir W.S.
9. T. and K.

1820 between 23 June and 1 July, there was not a cloud and the heat was very great. In the counties of Somerset, Gloucester and Wilts some died from excessive heat.[1] Then followed thunderstorms, but on 12 September, in the Midlands, the weather was 'most intensely hot'[2]; and at the beginning of November, it was 'fine' and 'open'.[3]

1821 Both the autumn and winter of 1821, were very wet but warm. The whole of November is registered as particularly mild; and 31 December is said to have been 'more like April'.[4] This

1822 continued into January, 1822, and on the 10th, broad beans are said to have been in blossom at Fulham.[5] Except for local gales, most of February, was 'extraordinary fine.'[6] But the rest of the

1823, 1824 year was mainly unpleasant, as was also the case in the two succeeding years. Warm weather returned again in the June and

1825 July of 1825[7], amd in the May and June of 1826. The 18th of the latter was 'intensely hot and dry'.[8] This indeed was a summer worthy of the name. The long continued drought caused bad moorland fires in Yorkshire, on 10 July, where for weeks it had been very sultry.[9] On the 15th, the weather was still extremely hot

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1. A.R.
2. W.D.D.
3. Ibid.
4. Ibid.
5. A.R.
6. W.D.D.
7. Ibid.
8. Ibid.
9. H.S.

and dry, and the grass lands scorched.'[1] Dyott writes, 'I was told at Derby there had scarce been a shower since the month of January.'[2] After some thunderstorms in August, the following month, September, was 'hot and dry; the harvest was light.'[3]

'Mild and pleasant' weather came again at the end of
1829 January, 1829, but snow followed in February.[4] At Henley, on 10 June, when the first University Boat Race was rowed, 'the evening was warm and sunny,'[5] and, in the Midlands, during July, the weather was extremely hot.'[6] In other respects, and at
1830 other times, the weather did not excel. March, 1830, 'came in with mild and fine weather'; and remained 'fine', except for a bad break on the 27th, to the 29th.'[7] There was a day, amongst many horrible ones, on 20 July, when it was, in London, 'most overwhelming hot'[8]; and to make up for the miserable summer, 'we were blessed [in Staffordshire] with delightful weather all October'[9]; but this year, most certainly, cannot be counted in the climatic triumphs of England.

1834 For extraordinary mildness, the December of 1834, stands out if the (probable), exaggeration of the diarist is to be accepted. 'I scarce recollect' writes Dyott 'such open weather, as the last week, at this time of year.'[10] But, it did not

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1. W.D.D.
2. Ibid.
3. Ibid.
4. Ibid.
5. C.M.P.
6. W.D.D.
7. Ibid.
8. Ibid.
9. Ibid.
10. Ibid.

1835 continue into the next year, when late August was 'very warm', and the first week in September was 'hot'; and the middle of October was a 'most glorious fine autumnal season.' But December was the usual unpleasant sleety month,[1] that we all know it to be.

1841 It was not until 1841, that there was any sign of another fairly pleasant summer, when the temperature at Greenwich once reached $100^{o}$. In June, 1842 'the extreme heat of the weather was as oppressive as ever I felt in any country'[2], said General Dyott; but it has to be remembered that the General, when he wrote this on climatic conditions, was growing a very old man, and that the more hale and hearty enjoyed a hot June. The summer, as a whole, did not, at any rate, incommode him too seriously, for if it had done so, he would not have written, on 12 September, 'There was never known a more glorious summer or more genial weather', nor, again, in October, would he have said, 'we had glorious weather'[3]. His enthusiasm, however, towards the end of December, declined, and other records show that on the 29th, it was relaxing and mild, and that there were for sale in Covent gardens, tulips, narcissi, rhododrendrons, azalias, camelias and begonias. 'The mildness ... is shown in the forwardness of every description of vegetation in the

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1. Ibid.
2. Ibid.
3. Ibid.

gardens, and the excellent supply of produce at the markets.[1]'

1843 This fine open weather continued into January, 1843, and the month of March, proved excellent for agriculture;[2] but it did not last right through, although it is true that the year closed with a renewal of similar conditions. The weather was described as being like April, and on Christmas day, it was asserted that, a nest of a thrush containing three eggs, was found in a garden in the West Riding at Campstall.[3] Once again this humid state

1844 was carried into January, 1844, and as a proof of the balmy conditions, 'polyanthuses, double and single primroses, stocks, wall-flowers, marigolds, japonica were all in flower near Patetey Bridge.[4]' A little later snow followed; but Fitzgerald wrote, on 24 February, 'I tell you we have had the mildest winter known[5]'; he spoke, however, too soon, because there were appalling drifts of snow in March.[6]

1846 A really 'notably hot summer' came in 1846. As early as 6 February the 'lilacs, hawthorns, plum-trees all in bud, elders in leaf, rose bushes with great red shoots.[7]' The true summer began on 21 May, and soon became a drought, extending to 23 September. It killed both men and beasts, and it is stated to have been the hottest summer since 1780.[8] There was a break,

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1. A.R.
2. W.D.D.
3. H.S.
4. *Ibid.*
5. Fitzgerald.
6. A.R.
7. *Ibid.*
8. *Nature*, 1930.

on 24 June, when 'the intense heat and drought occasioned by the lapse of many weeks without rain, were, at length, alleviated by violent storms of rain'; but this was only temporary. On that day the temperature, in London, reached 95°.[1] It is remarkable that, although there was so little rain during the whole period, the harvest was good.[2]

It was some years before anything approaching the fine, mild warmth of 1846 repeated itself. It was, for a brief
1853 period, thought to have come in 1853. That January was unusually warm, the temperature being from 8° to 14° above the normal.[3] Then followed bad and uncertain weather, until, on 4 March, ten days of relaxing heat set in;[4] but there was not much more of that kind of weather for many a day.[5] The first
1854 of the 'Crimean Frosts' had to be faced. The summer of 1854 was, undoubtedly hot, particularly on 25 July, which was the hottest day in the year, where in Hyde Park it was 85° in the shade, and 105° in the sun. Certainly breaks occurred, but it may be said that the heat of the summer continued until 11 October. After the second of the 'Crimean' winters, the
1855 following summer was good, and wheat was cut at Ryde on 14 July, at Nottingham on the 20th, and at Bicester on 8 August. The
1856 same phenomenon was observed in 1856, when the heat was very great between 1-3 August, during which wheat was cut in many parts of the Kingdom.[6]

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1. A.R.
2. Nature, 1930.
3. A.R.
4. Ibid.
5. Vide Ch. I.
6. A.R.

1857 It was said, at the time, that the summer of 1857, was 'one of the most remarkable on record. The temperature in July, August and September, was considerably higher than the average of the same months in the last 86 years.[1]' In the same
1858 catagory it is necessary to include the June of 1858, which was the hottest but one on record up to that date; the mean temperature at Greenwich being just above 76°. At Bedford, on the 16th, it was 97°, which, at that time, was stated to be the hottest day ever registered in England.[2] Despite the drop in temperature that generally follows upon thunderstorms, the summer
1859 of 1859, was almost, if not quite, as hot as the previous one. The harvest began, in the south of England, on 11 July, and 'no instance of such continuous hot weather as prevailed during this month', has been found since records began in 1771. The greater part of October was very fine, but severe weather set in on the
1860 21st.[3] The summer of 1860, however, was one of the worst known, even worse than that of 1879.[4] There was something of a heat-
1861 wave in the June of 1861. On the 14th, it was distinctly hot, the temperature being 82° in the shade, and 108° in the sun. Some soldiers on the march dropped insensible. For those not exposed to the heat the weather was delightful, and this kind of summer, certainly, helped on the corn; and, on 25 July, it was stated that 'the grain everywhere was in the very finest

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1. Ibid.
2. Ibid.
3. Ibid.
4. Rev. H.W.H.G.

condition.[1] ' In the middle of August the temperature was above the average, and in September, the St. Leger was run in very fine weather. Then followed gales and rain; but, on 25 November, the weather changed and became remarkably warm and continued so until Christmas Eve.[2]

1862 The year 1862, was a most extraordinary one for alternations of cold and warmth. After an arctic beginning it changed to an excess of heat from 24 March to 8 June. From that date to 12 September there was a return of the bitterly cold. This was followed by unusual warmth during the first seventeen days of October; then, again, until well into November, it was cold. Christmas Day was very mild;[3] and this peculiar mildness
1863 repeated on the following 25 December, when roses were in bud
1864 and in bloom in Cheshire.[4] Early in 1864, a cold period supervened, and no remarkable hot days occurred until 9-15 April, (the swallow and the lesser whitethroat arrived on the 16th), and on 14-20 May, when the temperature exceeded 80°, the highest temperature being on the 19th, when it was above 89°. Strawberries were ripe on 10 June; and it was extremely hot in the last fortnight of July, from 3-8 August, and on the 29th, and 30th. This outburst did not occur again for sometime.[5] Certainly there was an exceptional day, in a poor summer, on 19 August,

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1. A.R.
2. Ibid.
3. Ibid.
4. Hall.
5. A.R.

1867 1867, when the heat was said to be terrible ending in a violent thunderstorm;[1] but this was one warm patch in a bad period.

1868 The summer of 1868, was, what might be called, the right kind of summer. The year began with an earthquake, then followed gales, some of them 'famous'; but when Derby day came on 27 May, 'the weather was all that could be wished.[2]' Almost the same words were applied to Cup day at Ascot on 11 June. The Prince of Wales visited Oxford on the 16th; in 'splendid weather'. During the celebrated Wimbledon Rifle Competition, 'the heat was so intense that many competitors' retired. It was asserted that the Steward's thermometer registered 101°, but this is regarded as either a mistake, or that the thermometer was not scientifically accurate. The opening ceremony of the Memorial to Lord Palmerston, at Romsey, on the 21st, was carried out when 'the day was brilliantly fine'. When the summer had promised so much, and for once had, indeed fulfilled it, our fathers must have hoped that, perhaps, they would be allowed a glorious golden autumn; but, nothing of the kind, the true English climate asserted itself, and the contemporary records are gale after gale, with another earthquake in addition. Nor did the

1869 summer of 1869, make up for this disappointing autumn. Except for a day or two,[3] its character was 'absence of sun and warmth'.[4]

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1. Nature, 1930.
2. A.R.
3. February 4 was described as 'glorious, like summer'. On this day Sir Charles Newby and others when hunting with the York and Ainsty hounds perished in the disaster at Newby Ferry.
4. A.R.

This typical meterological phrase applies equally well to the
1870/2 years 1870, 1871 and 1872.[1]

It is difficult to find in the contemporary accounts of the 'seventies any redeeming features in the English climate. Once, having got over the rapid thaw, in the north of England,
1875 on 1 January, 1875, the remainder of the month was mild; Whit Monday (17 May) was 'exceptionally fine'; Derby day (26 May) was bright; Cup day, at Ascot (10 June) was only 'tolerable', though there had been very dry weather for a week. July was
1876 hopeless, and so to the end of the year.[2] The next year, 1876, tried its best to brighten the lives of Englishmen; but its best, was nothing of outstanding merit. The University Boat Race, on 8 April, was rowed in brilliant weather;[3] the Derby, on 30 May, was run in continued fineness of weather;[4] during the University Cricket Match, 28 June, the weather was of 'the brightest'. Round about 22 July the Wimbledon Rifle Meeting was carried on with success for a fortnight 'not withstanding the tropical heat of the weather'. On the 29th, a crossing sweeper complained 'look at the weather! Not a blessed drop of rain to speak of for a month, and the roads as clean as the pavements'. Well may the fashionable world have thought 1876 an ideal year. But was it? What of the whirlwinds, gales, flood and bitter cold that followed? Still the year had some
1877/8 good points, whereas, 1877, seems to have been a thoroughly

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1. Ibid.
2. Ibid.
3. C.M.P.
4. A.R.

'beastly' year; and so does 1878; and everyone knows that

1880 1879 was vile beyond words. Nor was 1880 very much better. So that these years provide no material for 'Mild and Warm.'

1881 In contradistinction, however, 1881 stands out. One of the hottest days ever experienced in England was on 15 July. In the Strand the temperature was 98° in the shade and 123° in the sun, while at Wimbledon, it is said, that in the sun it was 140°. Many storms followed during the summer, but taking the year as a whole, it was 'tolerable'. It is not without interest, that round about 11 November, St. Martin's Summer was universally fine and pleasant. Strawberries and raspberries were in flower in most parts of England.[1]

1886 It is not until 5 October, 1886, that any thing unseasonable and extraordinary in the way of heat has to be recorded. On that day the temperature was 80° in the shade and 105° in the sun. But the rest of the year consisted of a steady series of gales.[2] The 'real' summer of the 'eighties was Jubilee Year,

1887 1887, though it was not without its setbacks. No year in England ever has been quite perfect. A drought began on 2 February, which lasted for seventeen consecutive days. No rain fell at all; and much the same might be said for the period from March to August, when there was very little. The result was that the year had the least rainfall since records had been kept, but in the South East of England the drought was, on the

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1. *Ibid.*
2. *Ibid.*

whole, less severe than that of the astounding year 1921.[1] The 1887 drought became very serious, about 27 June, mainly in South Wales and Lancashire though other parts were affected. In many places the water supply was alarmingly scarce. By 3 July the heat had become terrific, and, on that day, in London, the temperature was 91° in the shade and 146° in the sun. Suddenly, on 16 August, after at least thirteen weeks of drought, the weather cooled and rain fell. On the 17th, and on the 29th, there were severe thunderstorms. The 'glorious' year went off in character and the autumn closed with the usual gales.[2]

1889 There was a spell of very hot weather in May, 1889, but the summer consisted of 'long continuance of cold and unseasonable weather', although, in the autumn, there was astonishing mildness, so that, on 20 November, in Kent and elsewhere, there were violets in profusion, cherry-trees in blossom, 'and, near Sittingbourne, a field of poppies was in full bloom'; but within five days all these were covered in snow.[3]

1893 The spring and summer of 1893 were among the earliest on record. Insects were terrible, and, later in the year, the swarms of wasps amounted almost to a plague.[4] One of the most severe droughts in the history of England began on 28 February, and lasted for 114 days. During that period, the total rainfall, in London, was only 1.09 inches.[5] At Hurst Castle, from

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1. _Nature_, 1930.
2. A.R.
3. Ibid.
4. _Nature_, 1930. At Sandown, I. of W. wasps certainly were a plague. R.W.J.
5. Ibid.

18 March, to 15 May, there was not a drop of rain; and in the greater part of the South of England, there was no rain throughout the month of April, though, according to one source there[1] was a slight shower on the 17th.[2] Canon Atkinson wrote on the 21st, 'I have never known such a season in all the years of my life here [Danby]. The flower-buds of the May are found and .... it is safe to be out' in early May.[3] July was distinctly warm, and there were occasional sharp thunderstorms; but, on 18 August, at 1.30 p.m., in London, the temperature was 98°, and there were several cases of sunstroke and heat apoplexy.[4] The concluding months of the year, except for gales, were mild.

1894. The next spring, particularly in April and May, was 'unusually warm'; but on 21 May there was heavy snow.[5]

1895 The great frost of 1895, was followed, at the end of April and at the beginning of May, by 'unprecedented dry and hot weather'; and in the latter part of the former month it was said of North Yorkshire 'the weather is as nearly perfectly enjoyable as it can be. Seed time is progressing favourably;[6] but it was of little value, perhaps even harmful, for it brought forward the fruit too hurriedly, and it was destined to be much damaged

1896 by a return of sudden cold. The following year, was famous for a drought from the latter part of March to 5 May, which then broke in a severe thunderstorm.[7] A second period of drought,

1. Ibid.
2. A.R.
3. F.Y. in M.P.
4. A.R.
5. Ibid.
6. F.Y. in M.P.
7. A.R.

with a very high temperature, began on 25 July, which lasted for another six weeks and terminated in a series of thunderstorms.[1] There was nothing approaching these two droughts for many years

1898 to come, although there were some hot weeks in 1898. Round about 16 August, in London and the Southern counties, there was an extraordinary heat wave for five days. There were many cases of sunstroke and heat apoplexy, which were only natural, as frequently during the time, the temperature was $90^{\circ}$ in the shade and $142^{\circ}$ in the sun. As late as 8 September, in London, the temperature recorded was $91^{\circ}$. Excluding the numerous gales, the winter that followed was mild.[2]

1899 Somewhat similar conditions occurred in 1899. Without having any incidents of supreme interest the summer was as hot

1900 or hotter than many and the winter was mild. Very little good can be said of the next year. The early months were wet and the summer 'was marked by sharp vicissitudes'.[3] From that year

1906 until 1906 there was no talk about 'hottest days'. In the latter year, however, on the South Coast June, July and August were brilliant except for two or three thunderstorms. In Oxford in late July the heat was very great, but the really hot day, all over the Kingdom, came on 1 September. In Oxford it was $90^{\circ}$ in the shade; the grass in gardens was burnt to tinder. In the North Riding the heat was so intense that men out partridge-shooting had to retire by lunch time, one reason being

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1. Ibid.
2. Ibid.
3. Ibid.

1907 that their guns were almost too hot to hold.[1] A year later, the hottest day, after a week of bright and sunny weather, was 11 September.[2]

Another occasion of drought, though mainly local, was in 1908 1908, when at Portland Bill, not a drop of rain fell from 17 July to 18 August. The end of September that year was warm and fine, and on the 30th, the temperature in London was over 77°. This heat continued well into the first week of October, and on the 2nd, the temperature was 79°. Up to the end of December the weather remained very mild, and on Christmas Day many flowers were in bloom at Kew; but the 29th, of the month proved the coldest day though not the coldest night, since 4 January, 1867.[3]

After heavy rainstorms in the previous month, the central 1909 fortnight of August, 1909, proved very hot; but this was temporary and the main parts of the month and of the following September were cold and damp. It should be recorded, however, that there was an unusual amount of sunshine during the year.[4]
1911 There was, too, a fair amount of sun in 1911, as the summer was remarkable both for length and brightness, but there was a wet autumn. The August was, on the whole, very hot.[5] On the 9th, 100° was registered at Greenwich which is the highest temperature

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1. R.W.J.
2. E.M.H.L.
3. A.R.
4. Ibid.
5. Ibid.

ever known in Great Britain, and it was not a momentary registration, for it was maintained from 3 to 3.30 p.m.[1] So hot did the weather continue that the Army Manoeuvres had to be abandoned on the 19th. The immediately succeeding years,

1912/13 1912 and 1913 had some fine patches, but nothing of a remarkable character either as to mildness or exceptional warmth. In

1914 June, 1914, there were many hot days; and on 1 July, in London, the temperature was 90° in the shade. This unusual heat was

1917 almost rivalled on 17 June, 1917, when the registration was 89°; but otherwise this latter summer was full of many unpleasant

1919 and wet days. It was not until 11 August, 1919, that these temperatures were surpassed, when, once again, in London, the thermometer showed 91°.[2]

The year of glorious fineness that is indelibly stamped upon the minds of many, is that of 1921. Such years, being very few and far between, become happy memories, and, perhaps, as time goes by, acquire a greater magnificence than was actually the case. In some parts of England, for example in North

1920 Oxfordshire, the dry period of 1921 really began in the previous October;[3] but in most parts of the Kingdom it dated from

1921 February, and continued until the late autumn. In London, it is said to have started on 7 February, although there was a little rain on the 25th.[4] A slight break occurred, in some places, between 13-17 May, owing to a magnetic storm of great

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1. Nature, 1930 Cf. The Times, 20.8.32.
2. A.R.
3. R.W.J.
4. Nature, 1930.

intensity;[1] but when the month of June ended, it was said to be the dryest since 1813. The heat, in London during July was tropical, reaching more than 93°, on the 11th, and in Oxford at that time there seemed little or no air. That night, with but the fewest of clothes on, one seemed to burn and pant for breath.[2] By the 17th, the Thames at Teddington fell to about a quarter of its normal flow in July.[3] The London temperature, on 5 October, was 84°, which was the warmest October day since records were kept, and it had only fallen to 76° on the 18th. In fact, a most astounding drought prevailed throughout the country during the greater part of the year. The water scarcity was a tremendous problem, though in North Oxfordshire it did not become serious until towards the end of the year. At Great Rollright, springs that had never been known to fail before, did so in November, and did not recover until a heavy fall of snow in the following January.[4]

1922 It is a noticeable fact that 1 January, 1922, was the warmest January day, in London, for fifty years. In this year, too, the heat record for May was reached on the 22nd, when it was
1923 88°. The next year was also celebrated for a hot May, during the first fortnight of which high temperatures were reached. On the 4th, the temperature was 81°, which was the hottest 4 May since 1871. As a set back June 'was the coldest, dullest and

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1. *Ibid*.
2. R.W.J.
3. *Nature*, 1930.
4. R.W.J.

wettest' probably for the past eighty years.[1] And yet 4 July was a gorgously hot day with a temperature of 84°, and this lasted until the 13th. The whole year, however, was characterized by a deficiency of sunshine.[2] Much the same might be said
1924 for 1924, which had its hottest day on 12 July, with 87°. The
1925 hottest day in 1925, was 11 June, with the same temperature of 87°,[3] and during that month at Ross-on-Wye there was no rainfall at all; while Margate had omly 2¾ in. of rain in the first five months of the year.[4]

If very little can be said in favour of any of the years immediately succeeding the gorgeous year of 1921, still less can
1926 be said of the particular year of 1926, for during the twelve months less sunshine was recorded at Rothamsted than in any
1927 previous year. Worse might be recorded of 1927, because the same meteorological station stated, that with the exception of 1879, the year 1927 was the wettest within living memory. It was one of the six consecutive wet years which occurred since
1928 1921. The July of 1928 tried to make up, in some degree, for these misfortunes. From the 6th, to the 26th, it was dry, sunny and hot. On the 12th, the temperature was 84°. Three days later it was 91°, which was the highest of any day for three years past. The year was on the whole good. At least the
1929 sunshine recorded was above the average. The next year, was

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1. A.R.
2. Ibid.
3. Ibid.
4. Daily Express 23.4.32.

better still. The registration of sunshine was the highest for thirty-nine years. The temperature on 16 July, in London, was $89^{\circ}$. There was a drought from 25 August to 28 September, during which, on 8 September there was the exceptionally high

1930 temperature of $88^{\circ}$. The year 1930 will for a long time be famous for the heat wave over the whole country between 26-28 August, when, in London, the temperatures were $87^{\circ}$, $90^{\circ}$ and $92^{\circ}$.[1]

1931 Of the succeeding year the memories are so unpleasant that the least said the better.

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1. A.R.

# CHAPTER III.

## Thunder and Lightning.

Oh ye Lightnings and Clouds, bless ye the Lord.

Book of Common Prayer.

'I' th' dead eclipse, we nought descry
But lightnings' wild caprices in the sky.

Nabum Tate.

Great heats after the summer solstice generally end in thunderstorms.

Sir Francis Bacon.

Rain and wind increase after a thunderclap.

Virgil [Georgics I.]

Valuable as is the Anglo-Saxon chronicle for all kinds of early history, a compiler of the story of the weather, very naturally wishes that its details were rather more minute, and that it had registered more frequently the actual day on which some particular storm of rain or snow or thunder and lightning had taken place. In the early years of the Chronicle, at any rate, there is no such definite information. Can we blame King Alfred for his failure to insist on the record of these minutiae? After all, how could he or his scribes know that a thousand years later there might be some who desired such detail; or why should they care? What was a mere thunderstorm to a King who had to circumvent a torrent of wild barbarians?

Just as the reign of Offa is marked by the earliest account of a downfall of snow, so, too, it contains the earliest record
793 of an English thunderstorm. In Northumbria in 793, (Offa

of Mercia had still three years to live) there were whirlwinds and lightning.[1] In this case the Chronicle is not enitrely without detail for it infers that there vicious attacks of the weather led to famine. No wonder that this meteorological item was preserved, because, as already said, famine was too serious to pass over lightly in a story of the events that made National History. In this case it must have been far more than mere summer lightning otherwise the entry would not have been made. It may be inferred that it was exceptional fork lightning, because this stands out as an isolated instance and
1086 no similar storm is referred to in the Chronicles until 1086. On this occasion there were such thunder, lightning and famine 'as were never heard of before'.[2] Five years later, on 15
1091 October, 1091, there came a 'marvellous sore tempest ... in sundry parts of England but especially in the town of Winchcombe, (by force of the thunder and lightning) a part of the steeple was thrown down, and the Crucifix, with the image of Mary, standing under the rood-loft, was likewise overthrown and shattered in pieces; then followed a foul, a noisome and a most horrible stink in the Church.'[3]

The Chronicle again disappoints the reader in the next reference to lightning, in its omission of details. It is of
1109 some interest to know that the year 1109, the year in which the famous Anselm died on 21 April, was a period of 'many thunder-storms and those very awful.'[4] The Chronicle, however, does

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1. A.S.C.
2. A.M. Wav. and Win.
3. A.S.C., Eul. Hist. and W. of M.
4. A.S.C.

not state, why or how, these thunderstorms obtained this sinister reputation. The Annals of Waverley are not quite so barren and
1111 give rather more information for the year 1111, when there was a great storm of 'terrible' thunder which destroyed the Tower
1117 of Ely Cathedral.[1] The year 1117 seems to have been very typical of the English climate, and 'the rains ceased not almost all the year', and the objectionable character of the period was intensified on 1 December by a violent storm of thunder and lightning.[2]
1118 These electric disturbances continued into the next year, and between 6-11 January, (the week of the Epiphany) 'there was one evening very great lightning and a most immoderate thunderclap afterwards.[3]'

The 'immoderation' of the thunder in 1118, seems to have checked any further records for seventeen years. At last, on
1135 27 October, 1135, 'contrary to the nature of <u>winter</u>[4]', there was a terrible thunder-storm, with 'horrible' lightning, so that 'the world seemed to be about to sink into its ancient chaos[5]'. This must, indeed, have been a storm worth registering, and the monks of St. Albans must have shaken in their shoes, as flash after flash and peal after peal brought before the mind's eye the near approach of the world's end. They managed to live through it, however, and one, at least, survived to put on record how near they had thought themselves to 'ancient chaos'.

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1. A.M. Wav.
2. A.S.C.
3. <u>Ibid.</u>
4. The italics are mine.
5. M.P.

There must have been many a thunderstorm after this, before
1163 the great one of 1163; but the present writer has found no record. On Trinity Sunday of that year, a time ever famous for the beginning of the furious quarrel between Henry II and Thomas a Becket, there was a storm, during which the lightning struck dead many men and beasts of burden, and burnt many houses.[1] It is certain that the monkish historians construed this into divine punishment of an evil land, and a rebuke to the sovereign for his outrageous attack upon the holy prelate. It is also
1172 noticeable that on the Christmas Day of 1172, the very year when Henry II, submitted to the legates of Pope Alexander III, and cleared himself of the charge of procuring the murder of the Archbishop, there was heavy thunder, 'sudden and horrible' throughout England.[2] But no particular cause for divine wrath can be found to account for the lightning that killed both men
1177 and beasts on 22 July, 1177.[3] Thunderstorms, however, haunted Henry II almost to the grave, for there was 'great and horrible'
1189 thunder on 7 March, 1189,[4] and again, on 24 June,[5] and he died on 6 July. Many an ardent ecclesiastic of that day would see a great deal more than we can in these natural phenomena.

1193 The year 1193 opened with great thunder and lightning on the night of 14 January;[6] and, throughout the year, there was 'horrible thunder' followed by lack of the fruits of the earth.[7]

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1. A.M. Ber. and Wig.
2. M.P., A.M. Wav. and Ber.
3. Eul. Hist.
4. M.P.
5. A.M. Wig.
6. A.M. Ber.
7. M.P.

1198 Serious as this was the situation in 1198 must have been more so owing to thunder and lightning. Mathew Paris says it was 'as never before seen.'[1] And yet the recorder of the crashing of
1201 the elements shows even more violence in 1201, for such was the thunder 'men's minds were paralysed.'[2] Even this electrical discharge must have been surpassed, if we are to believe con-
1206 temporary writers, who state that on 15 July, 1206 there was terrible thunder at Bermondsey 'louder than ever known.'[3]

1215 The year of the sealing of Magna Carta, (15 June, 1215), was not without its meterological portents. 'Thys yere fell gret raynes and gret thunder, lytening and hayle stones .... that dystroyed cornes [and] fruites.'[4] This was sad and disastrous for the general community, but had this not occurred, and had the summer been warm amd fruitful, John might have surfeited himself with peaches in 1215, and contracted, according to the text books, the fever that carried him off in the following year. If we are to read the effects of weather into history, it is possible that these thunderstorms preserved John's life beyond the desires of many of his subjects. It was, however, more than 'cornes and fruites' that were destroyed by lightning when Henry
1222 III, was a youth in 1222. There was a terrific thunderstorm on 8 February, and the lightning struck the church at Grantham, 'causing an awful smell which could not be borne by those flying

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1. *Ibid.*
2. *Ibid.*
3. A.M. Ber.
4. G.F.L.C.

from' the building.[1] There is no record of loss of life in this storm; but in another that occurred on 30 November, throughout England, a house of a Knight at Pillerton, Warwickshire, was destroyed, with eight of both sexes.[2] At the same time, two small towers of Worcester Cathedral were severely injured.[3]

1227 Five years later, towards the end of July, 1227, thunderstorms raged throughout the 'whole of England', and sheep and cattle were killed.[4] It is possible that there is a confusion of years, which sometimes happens amongst chronicles, but if, in this

1228 case, there is no such confusion, then the year 1228, seems to have been as bad as its predecessor, for throughout the summer there was thunder and lightning, during which 'men and houses' were destroyed,[5] and a most dramatic event, recorded by Capgrave, took place in London. 'For evine as the biscop was at Masse at Seynt Poules there felle a thunder and a wedyr so dirk and so lowd that men supposed the Cherch should falle. All that were there runne awey for fere .... There was eke swesh stynk no man myte suffer it.'[6] In this instance it seems almost certain that the dates have gone astray. Capgrave, on several occasions, shows himself very careless as to the actual year, and here he is, almost certainly, telling the story of what Mathew Paris

1230 records for 24 June, 1230. The account for that day is that

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1. M.P.
2. Ibid.
3. A.M. Wig.
4. Ibid.
5. M.P.
6. Capgrave, C.

there was suddenly a darkness and the clearness of the sun was clouded and no man could see in the Church of St. Pauls. A crash of thunder seemed to shatter the Church, and so bright was the lightning that the edifice appeared on fire. Nor was a stench wanting; and the people fled out leaving only the bishop and the deacon.[1] The two stories resemble each other too much to have happened on different occasions so near together; and the event must have been a single one, and the date 1230 as given by Mathew of Paris is preferable to that of Capgrave.

1232 Much thunder and lightning occurred on 12 November, 1232,
1233,1237 23 March and in November, 1233, on 22-23 November, 1237 and on
1238 19 January, 1238.[2] Then there seems to have been some cessation
1242 until 20 November, 1242, when thunder and lightning were
1243 accompanied by tempest and flood,[3] and again on 1 March, 1243,
1244 and in mid November, 1244.[4] These, however, had been minor matters and a far more terrific storm raged 'throughout the whole of England' for sixteen hours during the night and part
1246 of the next day of 19-20 July, 1246. This storm, as so often, was followed by bridge-destroying floods.[5] It is curious, and rather suspicious, that the Annals of Tewkesbury, record thunder
1249 on 28 December, 1249;[6] while Mathew Paris says that in the middle
1250 of the night of 25 December, 1250, there was a great thunderstorm in the diocese of Norwich accompanied with a tempestuous wind.[7]

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1. M.P.
2. Ibid.
3. Ibid.
4. Ibid.
5. Ibid.
6. A.M. Tewk.
7. M.P.

It is quite possible that there were two such storms, but it is not very usual to have thunderstorms in December and their close recurrence suggests that one or other Chronicler has made an error in dating the year.

A really colossal storm burst over England during the
1251 night of 19 May, 1251. About the first hour there was a tremendous crash, and the bedchamber of the Queen of Henry III, Eleanor of Provence, was struck; so also, thirty-five trees in Windsor Forest. At St. Albans the lavatory of the monastery was damaged; and, throughout the country, mills and millers, sheep-folds and flocks, ploughmen and way-farers perished by lightning.[1] After such an experience the thunder and lightning on the night of 15 August,[2] of the same year, would no doubt, occasion more than usual alarm, though the annals give no details as to its destructive powers. Rather less terrifying storms, but sufficiently severe to be thought worthy of record
1253 by the chroncles, took place on 14 December, 1253, in June,
1254/6 1254, on 26 October, of the same year, ('when men were staggered by the horrible wintry thunder'), on 19 June, 1256, on 1 December,
1258,1260 1258,[3] and on 24 June, 1260, when great destruction was caused.[4] In the latter case, once again, there may be confusion of years,
1262 for on 24 June, 1262, there was a great and 'horrible tempest of thunder and lightning ..... so that the barns of Gumeleye and

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1. Ibid.
2. Ibid.
3. Ibid.
4. A.M. Win.

Hinewyke were destroyed, and great trees were torn up by the roots and the corn was completely spoilt.[1] The exact recurrence, so quickly, on the 24th, is a little suspicious, but it is possible.

1265 A storm, 'great and horrible', burst over Berkshire on 17 May, 1265, during which the east tower of the famous St. Mary's Abbey, at Abingdon, was struck.[2] Another storm, however, on 4 August, of that year, was even more historic. When Simon de Martfort was trapped by the curve of the river Avon, together with the strategy of Prince Edward, at Evesham, the horrors of the moment of defeat, were intensified by a supernatural darkness over the land 'such as no one had ever seen before', with thunder and lightning and an 'astounding rain'.[3] It is not surprising that Robert of Gloucester, should write 'Gristier weather than it was might not on earth be'.[4] Nor was that year to pass in climatic peace, because the celebrations on Christmas Eve, as night drew on, were converted from jollity to terror by a violent wind accompanied by thunder and lightning.[5]

It is natural to suppose, from the frequency of references, that the chroniclers were particularly affrighted by winter

1267/8 thunderstorms. For example, on 12 January, 1267/8, at the time of the celebration of the Great Mass at Winchester, there was

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1. A.M. Wig.
2. A.M. Os and Wig.
3. Ibid.
4. R. de G.
5. A.M. Win.

much thunder, lightning and hail;[1] in the following April, there were considerable thunderstorms followed by fifteen days continuous rain. Can it be that Prince Edward sought a more cheerful clime, when he left England in the June, of that year, to join his uncle, Saint Louis, in the East on the Crusade?
1270 Perhaps it was so, for, on 25 March, 1270, the rainfall was so tremendous that it was said, by a contemporary it was never so bad, 'since the days of the flood of Noah';[2] and on 14 June, there were very heavy thunderstorms from morning to night.[3] Were not these enough to drive the Prince on his pious expedition?
1271 The next year was little or no better. At Winchester, on 21 February, there was a thunderstorm deemed worthy of record;[4] and between 31 August and 22 November, the rain was '<u>cum continuatio</u>'.[5]
1273/4 King Edward I wisely spent the winter of 1273/4 in the more congenial climate of France, and did not land at
1274 Dover until 6 August, 1274.[6] Before the year ended he was shown once again what England could produce in the way of a great thunderstorm, and this time his experiences also included an earthquake on 5 December.[7]

There was thunder in Winchester about midnight on 10
1276/7 January, 1276/7, followed by a wet February and March, and a hot
1277 dry April, which culminated in a fierce thunderstorm on the 21st,

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1. A.M. Wig and Win.
2. A.M. Os.
3. A.M. Wig.
4. Ibid.
5. Ibid.
6. Jenks.
7. A.M. Wig.

in which much damage was done. Men and animals were struck dead, and owing to the resulting floods numerous water-mills were swept away.[1] It might have been thought that such a disastrous storm would have been long remembered, and yet, in
1284 regard to another storm, on 9 April, 1284, it is recorded 'that no man had ever seen or heard such a storm in April.'[2] Presumably, therefore, the latter was far worse than the former; but the short memory of those who record these details must always be borne in mind. The Chroniclers tend to use rather stereotyped phrases, and such expressions, repeated again and again, as 'never remembered', 'never in the memory of man', are to be taken with caution. Exaggeration, however, does not seem to have been used in the next three references. The great storm of 1284, took place on Easter day, 9 April, when the sky, instead of being clear and bright, was copper-coloured, and as the day went on it got as dark as night. A terrible tempest arose with hail, rain and snow. 'Such was the terror, of the lightning and of the crash of the thunder that men were in a stupor'.[3] Towards evening the sky cleared and all was calm. There is no record of what destruction was done by this storm, but it was, probably, considerable. It is clearly stated,
1286 concerning a thunderstorm, on 2 May, 1286, that it destroyed
1288 fruit and dwellings;[4] and of one, on 20 July, 1288, it is said

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1. A.M. Win.
2. A.M. Os.
3. Ibid.
4. A.M. Wig.

that there 'was such reyn, thunder and levene [lightning] that it destroyed all the corn.'[1]

For mere chronological reference the following may be
1289 recorded. There was terrifically loud thunder and brilliant lightning one night between 19-25 December, 1289;[2] thunder on
1290 18 June, 1290;[3] thunder followed by heavy floods on 25 October,
1292,1293 1292;[4] brilliant lightning on 15 April, 1293.[5] None of these registrations, however, carry with them any details. In the
1313 first week of November, 1313, there was a disastrous storm at Cramelynton in which, a man at a mill, was killed by lightning;[6]
1314 and on 6 May, 1314, 'a thunder-bolt shattered a tower of the Castle of Rock, near Wigston.[7] But after these events a strange blank falls upon references to thunder for nearly eighty years.

1393 The story opens again in September, 1393, when in many parts of England there was a great storm with 'horrible thunder'. At Lollysworth, in Cambridgeshire, it caused much damage, destroying houses and crops. Closely following upon it were floods, as at Newmarket and 'Barwe' [?Bury]. Dwellings were inundated and men and women were in danger of being drowned.[8] Still worse
1402 things happened on the Feast of Corpus Christi, 25 May, 1402. The imagination of the people seems to have been very vivid, and, it is possible, that their superstition was strained by the

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1. Capgrave, C.
2. A.M. Os.
3. A.M. Wig.
4. Ibid.
5. Ibid.
6. Inq. P.M. Ed. II.
7. Ibid.
8. A. Ric. II.

political situation of the time. What ever the cause, this is not the only storm in which it is definitely stated that his Satanic Majesty appeared in person. Why he chose the harmless little parish of Danbury, in Essex, will always remain a mystery as, indeed, why he, somewhat brutally, chose to injure one poor villager as he disappeared. Whether it was the Devil or whether it was the lightning, is left to the reader, but there can be little doubt that the steeple of the church was shattered and part of the chancel destroyed.[1] Not to be outdone by this malign demonstration, those in authority at the church of All Saints, Hertford, claimed that an evil spirit had visited their church and damaged the 'horologium' during a thunder storm on the day of the Nativity of St. John the Baptist, 24 June, 1402.[2] It is extremely probable that these absurd stories of visitations from the lower regions were the concoctions of the Friars, ardent supporters of the deposed Richard II, to persuade the people to realize God's wrath against the usurpation of Henry IV. It is noticeable that the rumour of Richard being alive was at its height about the dates of these mysterious events.[3] The King, however, took a firm line and many friars were arrested and hanged at Tyburn and elsewhere.

These drastic executions, evidently, terrorized the Devil, or the Friars, or both; and although thunderstorms continued, no similar displays of this kind were manifested for many years.[4]

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1. A. Hen. IV.
2. Ibid.
3. Oman.
4. Cf. 1658. Ch. VI.

During the visit of the Emperor, Sigismund,[1] there were, on 14
1416 June, 1416, 'the moost horribil thunderes and litynnges that evyr eny man herd.'[2] In the same year, on 29 December, from 10 p.m. till 9 a.m. there was lightning, thunder, hail, rain and wind.[3] During this period, when political storms were raging between the Peace and War parties in England, when English arms had suffered decline in France, and when the marriage of the feeble Henry VI with the termagant, Margaret of Anjou, was being discussed, another great winter thunderstorm
1443/4 burst over the country on 1 February, 1443/4. 'Thys yere on Candlemas evyne was gret thunder and tempest that Powlles stepulle on the south-west syde mervilusly was sett a fyer, and the stepull of Kyngstone-up-Temse brent, and many men slayne.'[4] There is no reason to think that this was regarded, at the time, as a divine warning against a rash act, and the royal marriage negociations went forward and culminated in the most unfortunate alliance for England, leading to a long period of bloodshed. Before the outbreak of the Wars of the Roses, however, there were
1445 more electrical disturbances. On 16 May, 1445 there was 'an unheard of tempest' of thunder, lightning and rain lasting most of the day and to midnight, which terrified the people.[5] Another winter storm was on 18 December, 1446, at midnight. The thunder and lightning were 'horrible' and 'perturbed the hearts of the

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1. Sigismund was in England from 1 May to the end of August.
2. Capgrave C.
3. Thornton.
4. G.F.L.C. and Thornton. Cf. W.A. W.A. says 1444/5.
5. W.A.

people'. The Chronicles records the old saying 'Wynter thunder
1449/50 bredeth wonder.'[1] It is apparent that on 25 February, 1449/50, there was excessive lightning, although the Chronicler does not actually say so. All he records is that on that day, there 'was great wederyng of rayne and atte nyght the King's place at Eltham' was suddenly on fire.[2] It is justifiable to presume that Baker means that the Palace was struck by lightning. That 'weather' played its part in the history of the Wars of the Roses is shown elsewhere, but the Chroniclers, for some time, ceased to record thunderstorms and their effects. One, however is preserved in the records of St. Mary-et-hill, in the City of London, when the bells were rung, according to the old superstition to disperse the tempest. In later years the reformers preached vehemently against this custom though Lord Bacon thought there was scientific justification for the practice.[3] A similar
1457 occurence is noted in about 1457 during a tempest a Yeovil; and again in 1464, at St. Mary's Church, Sandwich.[4] The century, drew to a close, not only with all the political anxieties attached to the name of Perkin Warbeck, but also with wild and
1499 rough weather. It was, certainly, so on 28 November, 1499, when there were, 'grete floddes, wynddes, thunder, lytnynges, wyche dyd moche harme and hurte in dyvers placys and counties in Ynglonde'.[5]

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1. Ibid.
2. Baker's C.
3. Cox. Ch. W.Acc.
4. Ibid.
5. G.F.L.C.

Whatever other climatic conditions 'the counties of Ynglonde' suffered for the next quarter of a century, and there were great varieties, as was natural in this island, thunderstorms do not seem to have attracted contemporary notice, until a storm at Spalding caused the affrighted parishioners to peal
1519 their bells in 1519.[1] The Grey Friars again record on 6 October,
1527 1527, 'a gret rayne all the nyghte, and all the day, unto vj a cloke at nyghte, and ther was gret lytnynge and thunder and haylle'.[2] The next few years were on the whole dry ones, but a
1545 mighty downfall came on 19 June, 1545, when there 'began at IX of the cloke at nyght a gret rayene with the thonder and lyghtnynge and contenewd un to the next day at X of the cloke'.[3] This, indeed, was a thunderous June, for on the 25th, there were severe storms in Derbyshire with a tremendous gale wrecking houses and churches and uprooting trees.[4] According to Wriothesley there was another great outburst attended in its conclusion by events of national importance. On 18 July, of the same year, 'at 9 of the clocke at night, beganne a thunder and lightninge with sometime rayne, which continued all night till the next daye at 8 of the clocke in the morninge, and the same day at afternoone all the Frenche Kinges navie came out of ..... Deepe and arryved on the coast of England in Sussex, afore Brighternsted [Brighton] .... and then they sett certeine of the theyr souldiers a land to burne .... but .... did little hurt.'[5]

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1. Cox, ut supra.
2. G.F.L.C.
3. Ibid.
4. Nature, 1930.
5. W.C.

Two great storms occurred in the 'fifties of the sixteenth
1558 century. The first on 7 July, 1558, when there was 'a marvellous tempest of thunder'[1], near Nottingham, and colossal
1559 damage was done by hail;[2] and the record, on 5 September, 1559, of which Machyn writes, 'shytte a thondering [such a thundering] was never heard a-fore the tyme, for with a clap at Alalowes in Bred Strett yt Kyld a water span [iel] at the chyrche syde, and fellyd a man ..... and sixteen of the same chyrche, and moreover yt crakyd the stepall a-boyfe the batelment all of stone that sum of [it] fluw owtt in pesses, that many pepull resortyd theder to see that marvels through-owt London. I pray God help. Thys was done be[tween] xij and one'[3].

1560/1 Stranger things happened on 'The xxiiij daye February, which was Saynt Mathew's day at vj a clocke at nyght.' Then there was 'seene at London as gret a flashe of lyghtnynge as lightly hath ben sene at any tyme and a gret clape of thunder ... with fell a gret shure of haylle and rayne which sodenly turned to a gret snow, and all this was in on quarter of an oure. For ye space of an oure after ye ellemente semed westward as rede as fyre. It is to be notid that all this whylle ye wynde was
1561 very bytter cold'[4]. On the following 16 April 1561 'yt lythenyd and thundered ... sore'[5].

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1. Ibid.
2. Vide Ch. IV.
3. Machyn's D. Cf. W.C.
4. C.S. 1880.
5. Machyn's D.

Far more serious, however, were the events of 4 June, of that year, when 'between one and two of the clock at afternoon, was seen a marvellous great fiery lightning; and immediately ensued a most terrible hideous crack of thunder, such as seldom hath been heard .... at which instant, the corner of a turret of the Steeple of St. Martin's Church within Lud Gate was torn; and divers great stones casten down; and a hole broken through the roof and timber of the said church .... Divers persons (in time of the said tempest being on the river Thames; and others being in the fields ...) affirmed that they saw a long and spear-pointed flame of fire, as it were, run through the top of the broche [or spire] or shaft of Paul's Steeple; from the East, westward. And some of the parish of St. Martin's, then being in the street, did feel a marvellous strong air or whirlwind, with a smell like brimstone, coming from Paul's Church; and withal heard a rush of the stones which fell from their Steeple into the Church.' St. Paul's was soon seen to be ablaze and its complete distruction was only averted because 'it pleased God .... to turn and calm the wind; which afore was vehement'; and because of the 'wisdom, authority and diligent travail' of Lord Clinton, 'Lord Admiral from the Court at Greenwich', assisted by '500 persons that laboured in carrying and filling water etc. Divers substantial citizens took pains as if they had been labourers, so did divers and sundry Gentlemen .... The true cause, as it seemeth, was the tempest, by GOD'S sufferance. For it cannot be otherwise gathered, but that, at the said great and terrible thunderclap when St. Martin's

Steeple was torn, the lightning (which by natural order suiteth the highest) did just smite the top of Paul's Steeple; and entering in at the small holes, which have always remained open for building scaffolds to the works, and finding the timber very old and dry, did kindle the same; and so the fire increasing, grew to a flame, and wrought the effect which followed; most terrible then to behold, and now most lamentable to look upon'.[1]

So violent were the 'lythengyng and thundering' on 30 July,
1561 1561, that Machyn thought that 'the world be here at a hend .... that the day of dome wher come at hand'.[2] But the world was not
1563 at 'a hand', and Machyn lived to hear, on 29 May, 1563, 'a grett clape of thondur'[3], which must have consoled him if he remembered his former perturbation; and again in 'Desembre from ye fyrst day to ye xiij ... gretar lyghtnying hath not beene lyghtly sene at eny tyme.'[4]

It is conceivable that Machyn's storms were outclassed in
1565 violence by that a Chelmsford on Monday, 16 July, 1565. This began about nine of the clocke at night .... and continued till three of the clocke the next morning.'[5] The destruction was very serious: corn, windows, tiles, barns, chimneys, were all destroyed 'and the battlements of the church ... were overthrowne.'[6]
1566 There was another very bad storm on Saturday, 30 March, 1566.[7]

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1. Quoted T.T.
2. Machyn D.
3. Ibid.
4. C.S. 1880.
5. Stow.
6. Ibid.
7. C.S. 1880.

About twelve years later there was a further example of the destructive powers of lightning, again in East Anglia. Between
1577 9 and 10 a.m., on 4 August, 1577, the parish church of Blythburgh, Suffolk, was struck and twenty persons were hurled to the ground, two of whom were killed. The door of the church, together with the steeple and bells were damaged. The storm, however, did not end here. About the same hour, the parish church of Bungay, nine miles from Norwich, was struck, the clock was injured, and two men were killed.[1] East Anglia suffered on a third occasion,
1582 when, on 12 August, 1582, there was a great thunder storm accompanied by a whirlwind and hail, and followed by a hurricane which destroyed dwelling houses and barns.[2] That winter other parts of the country also experienced thunder, for, on 13 December, Dr. John Dee records 'thunder in the afternoon and at sonneset.[3]' Although on the whole, considering the brevity and scarcity of weather records, Dr. Dee is a good annalist of meterological facts, he does not again record a thunderstorm,
1596 until 25 July, 1596, when he curtly says, 'thunder in the morning: rayne in the night.[4]' He also enters in his diary on
1597 5 and 6 July, 1597, that there was thunder.[5] And with these colourless entries the reader must be content for thunderstorm annals until a most marvellous story of a somewhat uncertain date.

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1. Nature, 1930.
2. Ibid.
3. Dr. J.D.
4. Ibid.
5. Ibid.

1612/3 Probably on 6 January, 1612/3, though possibly it may be a year or two earlier, it is stated, 'I assure myself youl have harde of the great and so dayne darkness which happened on Twelff a daie at morninge prayer, almost generall in all our westerne churches, and at one tyme and moment as here as we lerne, but specyall tokens in some particular churches, especyally in Sidnya [Sithney], by Helston, there was greatter darkness than in any other place; and in the middest of yt (as the parishioners suppose) came two great canon shoots, and after the canon shotts, some playinge with muscoot shoot, and the muscoot shoot ended there came a great ball of Willfyer runynge about the churche; some were touched and marked, some one Kylled and a nother all his garments burned, and yet his body not scorched.'[1] There can be little doubt that the West of England had a most astounding adventure. There can, however, be no hesitation in saying that there were neither 'canon shotts' nor 'muscoot shoots'; but that the phenomenon was due to an electrical atmospheric disturbance. There is only one record that has any resemblance to it, and that, too, refers to the West Country.

1621/2 Strange rights were seen and sounds heard, on 10 January, 1621/2,[2] by a minister of Plymouth and a French minister, when walking together on the Hoe. They avow that there were 'three clouds in the air, which clouds seemed to come and meet together. At their meeting one of them brake and gave two sounds as of two canons. Then the third brake and gave the noise as if it had

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1. T.P.
2. W.Y.D.

been the noise of cannon in a set battle, with a whistling in the air as if bullets had been shot out of a piece. There was a thunderbolt seen at Plympton to fall from theme into the ground which was weighted by report VIII lb. Sir Wm. Strode gave my wife a piece of the thunderbolt'.[1]

The stories of succeeding thunderstorms must, necessarily, fall rather flat after these remarkable events in the West Country. A somewhat ghastly result, however, of a storm

1626 was witnessed on 15 June, 1626. Thornton writes, 'there happened so violent a storm .... attended with thunder and lightning that the walls of St. Andrew's Churchyard, Holborn, and St. Botolph's, Bishopsgate, were entirely blown down, and many bodies laid there by ravages of the plague were for sometime publicly exposed.'[2] In the same year a tragedy occurred, at Newmarket, on Friday, 4 August. Seven reapers, in a field, frightened by a 'great storm of thunder and lightning', 'covered themselves with sheaves, the eighth stood it out, and was smitten dead. Fire seized on the sheaves where the others lay and burnt them, and so scorched three of them that they died also; the other four were so affrighted that they all ran mad and distracted.'[3] What ultimately happened to these terrified maniacs history does not relate.

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1. It is suggested by the editor of this diary that it was probably a nodule of sulphuret of iron.
2. Thornton.
3. W.Y.D.

In Yorkshire, particularly in the neighbourhood of Halifax,
1628 there was a great storm on 5 June, 1628, during which the lightning shattered the south east pinnacle and corner of the steeple of the Church, and the stones which fell broke down the
1631 battlements.[1] Three years later, on 30 July, 1631, the Nantwich district was devastated by a thunder storm, 'whereby much hurt was done in many places', such as 'a windmill torn to pieces' and '23 sheep killed with a thunderbolt'.[2] These kind of storms must have added very considerably to the discomforts of travellers, who learnt to be wonderfully patient, for, after all there was nothing to be done. After a journey from
1638 Lancashire to London, Nathan Walworth writes, on 16 August, 1638, 'although at my first settinge forth I had stormes of thunder, lightenninge and rayne, yet after the first day the weather was more seasonable, and I performed my Iorney well and in good tyme'.[3] Here we have placid content: no complaints about being wet through in the early stages of the journey, merely satisfaction at the completion of the whole.

A very curious accident owing to lightning is recorded on
1640 Whitsunday, 24 May, 1640, at St. Anthony's Church, Cornwall. A violent storm burst over the Church during divine service. The priest at the altar was struck and seemed to be surrounded by fire, though, as was afterwards proved, only one leg was burnt.

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1. H.S.
2. Hall.
3. N.W. and P.S.C.

Several of the congregation were also scorched. 'Then followed a loathsome smell of Gunpowder and Brimstone and a great smoak'. The Church was, apparently, undamaged except for several holes, in the steeple. No one was killed 'save one Dog in the Belfrie', but what the dog was doing in the 'Belfrie' during morning Prayer remains a mystery.[1] The same year, at Cambridge, on the night of 3 August, 'was great thunder & lightning, (the like thunder was never heard by old men now living)'[2]; but no outward events are associated with this storm.

An unusually fierce outburst with somewhat remarkable
1652 attendant circumstances, took place on 20 June, 1652, at Church Lawton, co. Chester. 'Wee have had much Thunder her in this land. Some hurt donn in sevrall counties. At lawton ... 11 men kild.'[3] This tragedy happened in the Church 'while the minister was preaching.'[4] 'The dead' says one report 'had no sign of fire on them (save one whose hair was burnt); but a strong sulphurous smell'.[5] Henry Newcome, however, adds that most of the faces of the killed were blackened, and one boy, whose face was pale, had a black mark on the ear, down the neck and shoulder to the sole of the foot.[6] This storm did considerable damage elsewhere. 'At West Chester the side of a church was beaten downe'[7]; and in a church at Grantom [Grantham] the

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1. H.E.D.B. II.
2. J.W.D. and C.
3. F.P.
4. L.G.L.C.
5. Ibid.
6. H.N.A.
7. L.G.L.C.

steeple [was] Rent, and manye sore hurt and some frighted of the last lord's day. A church beyond Rumpford p't burnt. Amwel in darbie shire sett on fire burning and not to be quenched, and many p'ticler men and cattle kild. The lord p'vide for us a better place than this world.'[1] The storm seems to have spread southward, and a few days later reached London, of which Evelyn writes on 25 June, 'after a drought of near four months, there fell so violent a tempest of hail, rain, wind, thunder and lightning, as no man had seen the like in his age.'[2]

As many other diarists, though perhaps more regularly than most, John Evelyn always seems to have thought that every storm that happened was the worst in man's memory. In this vein he
1661/2 writes of the storm of 17-18 February, 1661/2, 'this night and the next day fell such a storm of hail, thunder and lightning as never was seen the like in any man's memory .... so exceeding was God's hand against this ungrateful and vicious nation and Court.'[3] This storm, however, does not appear to have caused Pepys to marvel[4] so much at the power of the lightning as at the force of the wind.[5] It was during the night of these wild elemental discords that, the so-called 'Queen of Beauty', Elizabeth, Queen of Bohemia, Electress Palatine, sister of Charles I, and mother of the gallant Princes Rupert and Maurice, was borne to her last resting place in Westminster Abbey. At Hereford on the 18th, there was 'a most violent storm of rain

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1. F.P.
2. J.E.D.
3. *Ibid.*
4. S.P.D.
5. *Vide* Ch. VI.

mixt with lightning which lasted about two hours'[1]; but in Lancashire, Newcome only refers to the hurricane of wind and not to any thunder.[2] So, too, at Oxford, Dr. Plot records that the gale was prodigious, but he gives no account of damage by lightning.[3]

1664 Some fairly bad thunderstorms were experienced by Londoners in the year 1664. Pepys states, on 26 June, how he was out for a walk, but that 'it being rainy and thundering mightily and lightning, we returned.'[4] He has more to say concerning a storm on 16 August. 'Wokened about two o'clock this morning with the noise of thunder which lasted for an houre, with such continued lightnings, not flashes but flames, that all the sky and ayre was light: and that for a great while, not a minute's space between new flames all the time; such a thing as I never did see, nor could have believed could ever have been in nature .... it seems it has been here and all up and down the contre hereabout .... Sir W. Batten saying much of the greatness thereof

1665 at Epsom.'[5] Pepys was less impressed on 8 June, 1665, when he briefly says that after very hot weather 'it lightened all night hard.'[6]

1665/6 A terrible accident happened on the road from Winchester to Andover, on 24 January, 1665/6, when a man was struck by lightning and, with his horse, killed. His face was beaten into

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1. K.I.
2. H.N.D.
3. Plot.
4. S.P.D.
5. Ibid.
6. Ibid.

the ground, his clothes completely burnt and his body singed. 'His gloves were whole, but his Hands in them singed to the Bone; the saddle was torn in little pieces and the shoulder of the horse badly bruised and scorched.[1] Another tragedy occurred
1666 on 10 May, 1666, in the Oxford neighbourhood. 'At Medley .... two scholars of Wadham College, alone in a boat and new thrust off shore to come homewards' were struck by lightning. One was killed instantaneously; the other was knocked out of the boat, 'and stuck fast in the mud like a post with his feet downward.' He was ultimately rescued, but could remember nothing.[2] Pepys refers to this storm, but in London it was evidently not so severe.[3] There was another on 31 May, when Pepys 'waked very betimes in the morning by extraordinary thunder and rain.' The next day the thunder must have been in the distance for it was mistaken for guns at sea. The hot weather continued, and 7 July, 'proved the hottest night that ever I was in in my life and thundered and lightned all night long.'[4] Pepys has nothing more to say of thunder, for, alas! his inimitable diary is now drawing to a close.

Anthony Wood, at Oxford, an inadequate successor of the gossippy diarist Pepys, records in his 'Life and Times' that on
1667 Sunday, 22 September, 1667, there was 'great thunder and lightning between 8 and 9 o'clock at night, followed with raine. Much

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1. Phil. Trans. 1716.
2. Plot.
3. S.P.D.
4. Ibid.

harm done at Mr. Huxley's house at Darfield'.[1] Unfortunately he gives no details as to the 'harm done', nor does he again mention
1670 thunder, until 15 October, 1670 when he writes 'thunder <u>inter horas 1 et 2 post merid</u>'; and again on 26 December, of the same year, when there was 'lightning in the evening and some say thunder.[2]'

A remarkable accident occurred at Holbeck, near Leeds, on
1672 2 September, 1672, when a boy was killed by lightning. 'His skin .... was perfectly burnt black, and was shrunk up hard like Parchment or Leather burnt by Fire'.[3] There were other children near by, but none killed, though one had a pair of stockings burnt off, and a girl was so scorched on the breast as to retain the scars all her life.[4] Another strange accident occurred on
1679 8 May, 1679, at Winwick, when, during a thunder storm, a shepherd took refuge under an elm. He was immediately killed. The peculiar thing was that the tree was unharmed except that the moss, which grew up one side, was torn off. The body of the man, however, was much injured. His hair and beard, on one side, were singed off, parts of his clothes and shoes were destroyed, and 'he was found with his Breeches burning, and nigh him a Hole in the ground about Two Foot Square, which seemed to have been made by the lightning.[5]'

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1. A.W. II.
2. <u>Ibid</u>.
3. <u>Phil</u>. Trans. 1716.
4. <u>Ibid</u>.
5. Morton.

1680 There was a violent thunderstorm on Tuesday, 18 May, 1680, especially near London, and the damage was considerable, but this was more due to hail[1] than to lightning.[2] An even worse
1682 storm took place at Daventry in July, 1682, when the lighting set fire to one of the beams of the church steeple, melted the lead on part of the roof, and 'in several Places it was perforated by it as if it had been struck through with the Tines of a Fork. And the greatest part of the Wires of the Chimes were burnt by it to such a Cinder as might be crumbled by the Hands.'[3] Another most unusual accident occurred at Portsmouth,
1685 on 23 October, 1685, when the mast of H.M.S. Royal James was shivered by lightning; and 'a great Ball of Fire came into the Gun-room Ports [of H.M.S. Coronation] and threw a Boy out of one of the Ports and he was drowned.'[4] It might be surmised that this is the only case recorded in which lightning caused death by drowning.

'Strong lightning in the air' was seen 'by people standing
1686 in the High Street', Oxford, on Friday night, 14 May, 1686;[5] and in the same place, according to Dr. Wallis there was 'much
1686/7 thunder'[6] on 3 March, 1686/7; but no further details are preserved. A remarkable flash of lightning is recorded by the Earl of Ailesbury, for 27 June, 1690. He says that the weather

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1. Vide Ch. IV.
2. Nature, 1930.
3. Morton.
4. Phil. Trans. 1716.
5. A.W.
6. Phil. Trans. 1716.

was very hot and that he rode to Weybridge, when, 'on my return a violent flash of lightning flinging my horse backward and I was much hurt and all alone, insomuch that I was forced to be two hours on dirty straw by the hogs.' The fact was that he feared to obtain help as he was liable to arrest.[1] The hot summer of
1691 1691 was 'refreshed by Thunder showers'.[2] One of these, on 27 July, was something more than 'a shower', and proved disastrous at Everdon where four were killed and six wounded by lightning whilst sheltering beneath a hedge. One of the bodies was 'as stiff as if the Lightning had suck'd up all his moisture or had coagulated and fix'd it.' In his possession was 'a Steel Tobacco Box [which] was struck quite through by the Lightning in two or three Places: The Holes like those made by Small Shot.'[3] A similar perforation in metal was found in
1691/2 Northamptonshire on 20 March, 1691/2, when 'the wires of the Chimes in the Steeple of Kettering were twisted by a Stroke of Lightning .... and it melted a little Hole in the outward Surface of one of the Bells.'[4] On exactly the same day, a year later, 'a board in the Steeple-window' at Oundle was set on fire by lightning, but, although the storm was severe, there was no further damage.[5]

Except for 'a very great storm of thunder and lightning'

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1. M.T.E. of A.
2. J.E.D.
3. Morton and Phil. Trans. 1716.
4. Morton.
5. Ibid.

1693 on 15 December, 1693, there seems to have been a lull in the[1]
1697 reports, until a series of storms in 1697. On 29 April, there were thunder storms over North Wales, and the North West of England[2] accompanied by hail.[3] A few days later, on 4 May, a violent electrical discharge, accompanied by a southerly gale, began at Hitchin, at 9 a.m., and continued to 6 p.m., again accompanied by hail.[4] A day or two after this a similar outbreak occurred in Lincolnshire;[5] and, on 6 June, there was another, with hail, at Westhide, near Hereford.[6]

The century closed with two serious thunderstorms in the
1700 spring of 1700. The first, at Leeds, on 27 April, when a cottage was struck. Pewter candle-sticks were completely melted, and holes were made in two pewter dishes and in a tin vessel. The lightning also 'smulted a white-stone Plate .... as if it had been with Lamp-black, and filled the room with such a Bituminous Smell (like fired gunpowder) as almost stifled the poor woman who was all alone in the House.'[7] The second storm was in Northamptonshire, on 30 April, when two houses at Deshough and one at Chalcomb were struck. In both cases it seemed as if the lightning had passed down the chimneys and caused an explosion.[8] After this, says Evelyn, there was 'a sweet season with a mixture of refreshing showers'.[9]

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1. J.E.D.
2. *Nature*, 1930.
3. *Vide* Ch. IV.
4. *Nature*, 1930.
5. A. de La P.D.
6. Phil. Trans. II.
7. Phil. Trans. 1716.
8. Morton.
9. J.E.D.

1701 The August of 1701, was famous for 'extreme Heat'. The 6th, was 'vulgarly called Hot Wednesday, which ended in much Thunder and Lightning. Upon that Day a great many People in the Higher Part of the Country [N. Northamptonshire] fell sick and some fell down dead.'[1] It was not, however, from being struck by lightning that these catastrophes happened, but from 'Injurious and Fatal Heats'.[2] With the unreliability associated with the English Climate, 'the weather changed from heat ... to
1703 wet dripping and cold.'[3] Thunderstorms were usual in 1703; there was a sharp bout in London in mid June;[4] there was 'terrible thunder' and an ash tree was split asunder at Towcester in mid October;[5] and there was considerable thunder in 'The Great Storm' of November,[6] but its noise was drowned by the roar of the hurricane.[7]

The county of Northampton seems to have suffered a good
1704 deal from lightning in 1704. At Kettering, on 10 May, the storm was 'terrible' and the chime wires of the Church clock were melted, and the waning piece and iron stay that belonged to it were fused in such a manner that they became welded. At the same time a small Hole was found melted in the Surface of one of the Clock Wheels.'[8] Well might Morton say that this 'was a remarkably Hot and Dry Summer, we had in this County more Lightning

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1. Morton.
2. *Ibid.*
3. J.E.D.
4. *Ibid.*
5. Morton.
6. *Nature*, 1930.
7. *Vide* Ch. VI.
8. Morton.

and Thunder than ever I had known before or since.'[1] On 19 July, barns were set on fire by lightning at Holcot and Flower [Floore], and a tall oak was split at Cortenhall. A month later, on 18 August, there was a storm of tremendous violence. Men and beasts were killed, and houses set on fire in Long Buckley, Winwick, Fichmarsh, Pithook, Benefield and Colly Weston. On this occasion a shepherd boy 'had almost all one Side of him sphacelated, and his Dog, just by him, kill'd outright by Lightning.'[2] And yet, after all this Evelyn writes in October, 'This year has been very plentiful'[3].

1706 There was a somewhat peculiar storm on 17 July, 1706, at Denbigh about 3 a.m., - peculiar - in so far as the narrator does not seem quite clear in his own mind whether it was a thunderstorm or not. The outburst was 'attended with a terrible noise (like Thunder) with some flashes of Lightning and a boisterous rain'[4]. If the noise was like thunder and if the lightning was also present there seems little doubt that the storm was of the usual type. At any rate, whatever kind of storm the writer had in his mind, there was considerable damage
1707 to crops. Almost a year later, on 10 July, 1707, the Rev. Miles Gales, parson of Keighley, Yorkshire, writes of a great thunderstorm in those parts. 'At 10 in ye morning', he says, 'was a most dreadfull crack of Thunder over ye Town of of Kighley in craven wech seemed sensibly to shake ye earth and ye houses. So

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1. *Ibid.*
2. *Ibid.*
3. J.E.D.
4. Phil. Trans. IV.

frightfull a noise has not been heard in ye memory of Man .... Everyone thought it over his head, so ye Men and Beasts run from it in a mighty consternation to ye next shelter'. A boy named Binns had an unfortunate experience, being knocked to the ground, and 'supposing he had been slain, but soon after recovering his senses by degrees, he got on his feet and fled to ye houses tht were next, not without several falls by the way.'[1.]

There can be no hesitation about the genuine thunderstorm character of the outburst at Harrogate on 5 July, 1708, when barns and hay-stacks were burnt, persons were singed and scorched and highways were torn up by the tornado.[2.] But this storm was as nothing to that eleven days later, on Friday the 16th. Dr. Dale, at Ipswich, avows that he felt the 'heat' of the lightning. At Harwich the master of a ship and three passengers were struck. The body of one of the latter was found to be black 'as if he had been whip'd with wires'; whereas the body of the master of the ship was not at all disfigured. A servant was said to be 'much torn and shatter'd about the Head'; while the other passenger, 'was very little disfigured, only a black spot on his Side and a small Wound, as if made with a Canterising Iron.' At Colchester, All Hallows Church and many houses were struck, and there was a very noticeable 'strong Sulphurrous scent.'[3.] This storm was not confined to East Anglia. It raged in

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1. Quoted in Y.P. 15.4.33.
2. Phil. Trans. IV.
3. Phil. Trans. 1721.

Northamptonshire, and Morton says 'Two oaks in Sir Erasmus Norwich's Wood at Brampton, the biggest about 10 Foot in Growth at the But-end, were split by Lightning, and also disbark'd quite round from nigh the Top of them to the very Bottom, for about 28 Foot in Length each ..... Upon the smaller Tree, for almost the whole Length of it, appear'd a preety deep Furrow, drawn as one might imagine from the Bigness and Form of it, by the Grazing of a Musket Ball betwixt the Bark and the Wood.[1]' Such was one of the many curious tricks played by lightning. Another, almost more remarkable, and without disastrous result,
1710 is recorded on 12 December, 1710, at Bramham-Moor, Yorkshire, when a stick in the hand of a horseman was set on fire by lightning and the man remained unharmed.[2]

It is clear that Dean Swift did not think that thunder was in place or season except in the summer. He wrote to Stella on
1711 26 March, 1711 and said 'I forgot to tell you that on Sunday last, about seven at night, it lightened about fifty times as I walked the Mall, which I think is extraordinary at this time of year, and the weather was very hot.[3]' Later in that year there was a storm on 7 June, during which a tree was struck at Rotherham,[4] and much damage was done by hail.[5] On 7 October great terror was experienced at Sampford Courtenay. There was, at first, impenetrable darkness, then a 'Fire Ball' fell

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1. Morton.
2. Phil. Trans. IV.
3. J.S.J.S.
4. Phil. Trans. IV.
5. _Vide_ Ch. IV.

on the porch of the Church, whereupon 'the Church was full of Fire and Smoak'. Still further alarm was caused by a Beam being struck whereby a Bell crashed to the ground followed by the pinnacle of the Tower. It is reassuring to read that 'tho' the People ran about in great Consternation, no one was hurt'.[1]

1711/2 A serious disaster occurred in January, 1711/2, which is recorded by the Archbishop of York writing on the 8th, to the Duchess of Newcastle. 'Your Grace' he says 'no doubt has heard of the dismal accident that lately happened at Southwell in Nottinghamshire, where the greatest part of the Collegiate church was burnt by lightning.[2]' Here again he records no personal injury.

The medieval chronicler would probably have classed the thunder of 1711 as a 'winter' storm.[3] Death, however, was

1718 caused by a storm in the autumn of 1718, that has been made immortal by Alexander Pope. On the south wall of the church of Stanton Harcourt, Oxfordshire, may still be seen a tablet bearing some verses by Pope to the memory of two lovers struck by lightning in the harvest field. They are too long to quote, but one verse may be recorded.

'Think not by rigorous judgment seized
A pair so faithful could expire;
Victims so pure Heaven saw well pleas'd,
And snatched them in celestial fire.'[4]

A true 'winter' thunderstorm occurred in Cheshire and Lancashire

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1. Phil. Trans. IV.
2. Hist. MSS. Com. 29. II.
3. Vide supa, 1135.
4. M.F.H. of O.

1720 on 18 December, 1720, When 'a week before Christmas was very great lightning about four o'clock in the morning and severall thunderclaps'[1]; there were similar 'horrible lightnings in
1720/1 January, 1720/1.[2]

If records about this time appear to become rather scarce, one, at least, makes up for the scarcity, by the marvellous and quite incredible circumstances that came to be attached to it. There is, historically, no question that there was a very severe
1724 storm of thunder and lightning in June, 1724;[3] and it was particularly violent at Worcester. For some time before the weather had been very sultry. About 2 p.m., in the afternoon of the 11th, there was 'an unusual dreadful sound'. The storm had burst upon the city. An officer's wife, sitting quite unprepared for any storm at an open window, was struck by lightning. The markings left upon her body were described as 'streaks of a copper-colour branched from the Left-Shoulder all over the Thorax, and interspersed here and there with irregular Spots, which gave occasion for that Conceit published in our news that curious Plants were drawn on her Bosom as with the finest Pencil. Some credible People .... assure me that it was a Ball of Fire, and that it burst with the loudest Report they ever heard'.[4] In this case one can be sure that the innocent victim, about whom such wonderful fiction had been produced, suffered an instantaneous death.

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1. L.G.L.C.
2. Hist. MSS. Com. 55.
3. Phil. Trans. No. 394.
4. Phil. Trans. 1734.

A most providential escape from death is illustrated by
1729 what happened in a thunderstorm on 6 December, 1729, at Pencarry, Carmarthenshire. A woman, carrying a pail, and accompanied by some children, was about to enter a cottage, when, she and the children were struck by lightning. None of the children were injured, except a boy who had his hair singed; the woman, though not killed, lost an eye, was struck dumb and was incapable of swallowing for nine days. The force of the lightning is shown by the fact that the pail and other wooden vessels were burnt, and a great breach was made in the walls of the house. Despite this obvious cause of draught a strong smell of sulphur and bituminous matter remained about the premises for some time.[1]

1733 Once again, on 5 June, 1733, there was lightning of such magnitude that much damage was done in the city of Worcester, including the fracture of the steeple of St. Andrew's Church, so that it was obliged to be taken down and rebuilt.[2] There was
1737 thunder and lightning in London, on 6 May, 1737;[3] and in Bath
1738/9 and Bristol, at 2 a.m., on 4 January, 1738/9;[4] and at Clifton
1739 on Sunday, 20 May, 1739;[5] and in London, again, from 7 p.m. till midnight on 10 September, of the same year;[6] while lightning and
1744 hail did much damage in Gloucester on 4 June, 1744.[7]

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1. Ibid.
2. Green.
3. J.B.R.
4. Brit. C.
5. J.W.J.
6. Brit. C.
7. Ibid.

According to the Church Register of Hunton, Kent, 'on
1746 Midsummer Day this year [1746] happened the greatest storm of Thunder and Lightening, wind and Rain yt was ever knowne in the memory of man'.[1] There can be little doubt as to the violence of this storm. The gale itself was severe enough, and caused terrible wrecks at sea. At Tunbridge four oaks were splintered by lightning and several sheep were killed.[2] At Boughton Green a man and two horses were killed, while another man, is said to have escaped alive, though he had his finger and toe-nails and
1747 the skin of his leg ripped off.[3] The next year, on 2 June, Sussex experienced almost as disastrous a thunderstorm, and a man was killed at Midhurst, and another at Arundel.[4] On 8 July there was a severe storm at Bristol, and loud claps of thunder
1748 were heard in different parts of Devonshire.[5] On 12 June, 1748, a chimney was struck at Streatham, and two boys were killed during divine service at Springfield, Chelmsford.[6] In this grouping it should be noted that a contemporary states that the
1749 night of 22 August, 1749, 'was the most terrible for lightning, thunder and rain their was ever known in this age.'[7]

As usual the above reference is the typical exaggeration of the contemporary, and 'this age' experienced quite as terrible
1749/50 a thunderstorm at Newport, Mon., on 11 February, 1749/50,[8] or,

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1. Reg. Hunton, Kent.
2. Brit. C.
3. Ibid. Cf. V.L.
4. Ibid.
5. G.M.
6. Brit. C.
7. Reg. Barlow, Derbys.
8. Brit. C.

again, on 10 June, 1750, when thunder and lightning raged
1750 throughout Surrey and Kent. On the latter occasion, it is said, that nearly a couple of hundred sheep were struck dead at Sittingbourne; a man was killed in Kennington Lane, and another struck blind and deaf at Lambeth. Many houses were damaged and chimneys shattered.[1] It should be remembered that this was an unusually hot summer.[2] In London on 11 July, there was a violent hail[3] and thunderstorm; and on the 16th, in the counties of Worcester, Warwick, Huntingdon and Cambridge. Sheep were killed at Barleston; a barn was burnt near Coventry; and a shepherd, with his thirty sheep, was killed at Marton.[4] In fact the year 1750 was a very curious one being famous amongst other things for its earthquakes, and the unpleasant disturbances of nature were carried into the next, when, on 27 February,
1750/1 1750/1, lightning damaged churches at Eltham, at Ladoch, near Truro, at Lichfield, at Worcester and at York, when the Minster was struck. Houses were also much injured, in particular, at
1751 Bromyard.[5] On 20 May, 1751, there was a storm at Pontefract, which lasted four hours, and included thunder, lightning, hail and rain, the latter causing serious floods.[6] In the West of
1752 England the year 1752, closed with most tremendous thunderstorms. At Bristol, between 5 and 6 p.m., on 14 December, there was a ball of fire, and, as usual, the flashes of lightning

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1. Ibid.
2. Nature, 1930.
3. Vide Ch. IV.
4. ? Nature, 1930.
5. Brit. C.
6. ? Brit. C.

'exceeded anything of the kind ever seen before'. Cornwall was visited on the 30th, by a storm that caused damage. The lightning is reported to have cut holes in a hill side, and destroyed a farm-house. All the persons in it were for the time stunned, but only one was killed, his clothes being torn to pieces and his shoes scorched.[1]

1754 Gloucester claimed, on 21 August, 1754, to have had a thunderstorm the worst 'ever known'; but this, obviously, was an exaggeration, for the storm did not last more than about an hour, and only one house, in Belt Lane, was struck. Far worse
1755 storms were those in the forenoon of 7 July, 1755 at Margate,[2] or on Monday, 17 November, at Wapping, when according to Wesley, 'the lightning flamed all round .... and the thunder rolled;'[3]
1759 or again, on 15 July, 1759, at Bristol in which a man was struck blind. This last storm was described as 'one of the most violent for years.'[4] The memory of man, however, is very short and the drastic effects of the moment, always appear more pronounced than those of the past.

A very peculiar flash of lightning, nor do there seem to be any records of another of exactly similar character, was
1760 observed in Norwich during a hail-storm on 5 December, 1760. The flash is stated to have 'burst into several parts resembling balls of fire which fell in many parts of the city .... but did
1761 no harm'.[5] Norfolk suffered again, in the next year, on 5 August.

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1. Ibid.
2. Ibid.
3. J.W.J.
4. Brit. C.
5. A.R.

The storm was of great violence. It split an oak longitudinally, and in a curious manner, because 'the lightning had no immediate effect upon the branches or smaller twigs, but left them all fair and green, as if nothing had happened to the body of the tree.'[1] This storm was also stupendous in Northamptonshire, particularly at Benofield where the hail was terrific.[2]

London sustained a 'dreadful' storm at 10 p.m. on 24
1762 August, 1762 when the flashes were almost 'without intermission'.[3] It seems to have been a thundery year, and Wesley[4] makes an entry, when at Tiverton, on Thursday, 30 September, 'about midnight I was waked by loud thunder which continued about a quarter of an hour .... in other places we were .... informed it continued a great part of the night ... the main stock was at the same time for near one hundred miles'. It is obvious, therefore, that this storm had a remarkably wide range. Nearly a month later, on 21 October, there was a storm in and around London, 'when there was great lightning without any thunder, the flashes were white and luminous'; but what was still more uncommon, was, that 'the weather changed from extreme cold to unusual heat'; whereas the general effect of electrical disturbance is for the temperature to fall.[5]

It is possible that there was a thunderstorm in the Ilkley
1763 district of Yorkshire on 14 July, 1763, but it is not quite clear

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1. Brit. C.
2. Vide Ch. IV.
3. Thornton.
4. J.W.J.
5. A.R.

whether this was thunder or a hurricane of wind. There is no doubt, however, of the character of the storm in the South, on 19 August, of that year. The Church Register of Hunton, Kent, says that it was a 'much greater storm of Thunder, Wind, Hail and Rain than in the year 'forty six'.[1] It certainly must have been a colossal storm. In London it was particularly violent about noon. It was 'preceded by almost total darkness'; the heat was intense, 'and was felt by the people as like the heat of an oven .... About Chatham the darkness was accompanied with one continual rolling of thunder'. At Twickenham, Reading and Brighton there were hurricanes; while at Sheerness, 'some dreadful convulsions of nature were apprehended'[2]; and in most places considerable terror was aroused.

1764 The violent storm of 18 June, 1764, was famous, not only for the damage that it caused before the rain fell, but also because it provoked a most important discussion at the Royal Society[3]; and owing to this, it may be said, that a direct result of the storm was the adoption of lightning conductors which had recently been invented by Franklin.[4] The power of lightning, on this occasion, well proved the necessity of some such protection. The steeple of St. Bride's, London, and of the Church at South Weald, Essex, were both struck and much damaged. In the former case the metal spindle carrying the vane was fixed into a stone and this stone was shattered into fragments.[5] At about the same

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1. Reg. Hunton, Kent.
2. Thornton.
3. <u>Nature</u>, 1930.
4. <u>In 1752</u>.
5. <u>Nature</u>, 1930.

time H.M.S. Ramillies, lying at Chatham, was split and torn to pieces by lightning.[1]

The thunderstorms of the next few years seem to have varied
1766 in character. At Scarborough, on Sunday, 13 July, 1766, Wesley records 'a furious thundershower, but it was quickly over'.[2] A rather more serious storm took place in the next year on 1 June, at Ormskirk, where a house was destroyed but the occupant was unhurt.[3] What is described as 'a most terrible thunderstorm' happened at Leeds on 19 July, when several houses were struck, some persons were miserably scorched, and the clothes 'of an old man who sat in a window .... whetting his Knife' were set on fire and he was horribly burnt.[4] In the same month another storm accompanied by 'a ball of fire' burst at Overton, Hampshire a barn was destroyed with much hay and corn, but no lives were lost.[5] A considerably worse outburst than this was, on 4 August, at Hampswaite, Fewston, Leathley, Pannal, Otley, Stainburn, Beamsley, Keighley and Ripon, when a 'dreadful storm of thunder, lightning and heavy rain happened'[6] followed by a disastrous flood.[7] During a series of vivid flashes of lightning on 1 July,
1768 1768, in the London district, several persons were struck; and a leaden statue in a garden in Camberwell was completely melted and 'reduced to dross'.[8] This, however, was again surpassed by

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1. Ibid.
2. J.W.J.
3. A.R.
4. Ibid.
5. Ibid.
6. Y.A.S.J. CXIX.
7. Vide Ch. V.
8. A.R.

the storm that burst over London on 2 August. Several houses were set on fire; and a curious accident occurred to an unfortunate man who was 'struck dead as he was sitting upon his coach-box in the road from Deptford. It is remarkable that his watch, which was in his pocket, was found shivered into a thousand pieces; there was also a small hole in the crown of his hat, and a kind of seam down his breast.'[1]

Many storms, at this period, seem to have been purely local.
1769 Thus on 27 January, 1769, at Ratford, near Coventry, a ball of fire fell without doing any damage;[2] and on 16 July, the storm in the Isle of Ely, which was unprecedented, was confined to that neighbourhood. In this eight farmers were estimated to have lost £3000 worth of crops, but this was due rather to hail than[3] to lightning.[4] Another local storm, but one of some dimensions,
1770 was on Sunday, 18 February, 1770, during Divine Service, when St. Keverne's Parish Church, Cornwall was struck by lightning. The Vicarage seat was shattered, and a large piece of oak was thrown twenty feet. The sister of the clergyman was rendered unconscious; the wooden portion of one of her pattens was broken, and it and her shoe was burnt as well as part of her clothes and portions of her body. The church, itself, suffered considerably. The spire was split, and stones from it were thrown on the tops of many houses; one that fell through a roof was found to weigh 14 lbs. It is stated that some smaller

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1. Thornton.
2. A.R.
3. <u>Vide</u>, Ch. IV.
4. A.R.

stones were found at a distance of a quarter of a mile.[1] There can be little doubt that churches without lightning conductors were only too liable to disasters. A case in point was on
1772 Sunday, 22 March, 1772, when, during Divine Service, the congregation in Mr. Whitefield's Tabernacle in Tottenham Court road were filled 'with the utmost consternation', by the death of a man who 'was struck dead with a flash of lightning, the studs in his sleeves were melted and his shirt was burnt, as was also the hair on one side of his head .... his clothes were pierced as if by shot and greatly singed. It was reported that 'the lightning was attracted by an acorn on the top of the chapel and made its way down the wall against which' the man was leaning. This ornamental 'acorn was shivered to atoms'.[2] The severity of this storm is commented on by Horace Walpole on the 27th, 'we had' he says 'last Sunday a most violent storm of thunder and lightning. The latter entered by the wire of the bell into Lady Mary Fox's dressing room in Cavendish Square .... It melted the wire, fired the cornice, burned a chair and damaged the floor'.[3]

A far greater storm, as far as destruction is concerned
1773 took place in London on 13 August, 1773. The thunder, with frequent gusts of wind, started about 9.30 p.m., and, with some slight intermissions, continued until 7 a.m. The lightning

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1. Nature, 1930.
2. Thornton.
3. H.W.L.

caused both loss of life and property. The Church of St. Peter, Cornhill, was much damaged; the north side of the Obelisk in St. George's Fields was injured; at Limehouse a dwelling was split asunder; at Sydenham a shed was burnt to the ground; while many ships were struck in the Thames. A man was killed in Oxford Street; another in Islington; and a woman lost one of her eyes in Cornhill. 'In short the calamities arising from this storm in and about London were greater than had been known from a like cause for many years. The day preceding the tempest was sultry hot, and the air surcharged with sulphurous matter, which, had it not been rarified and dispersed by the subsequent storm, might have proved fatal to some thousands of the inhabitants.'[1]

For two years after this great outburst of nature there seems to have been little lightning but torrents of rain. On
1775 5 June, 1775, however, Pembroke College, Oxford was struck by lightning in four distinct places during a severe storm.[2] Six weeks later, Wesley records, 'an impetuous storm of thunder,
1776 lightning and rain' at Wigan on 26 July. In the following year, he writes of 'much thunder and rain and lightning' in Teesdale,
1777 on 8 June.[3] He says much the same concerning 1 July, 1777, when in the neighbourhood of Buckingham; and during the same month he makes a curious assertion, on Wednesday, the 23rd, when approaching Bridge End: 'we had' he says 'the heaviest rain I

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1. Thornton.
2. J.J.M.
3. J.W.J.

ever remember to have seen in Europe, and it saved John Pichard's life, for presently man and beast were covered with a sheet of lightning, but as he was thoroughly wet, it did him no harm'.[1]

A truly alarming tempest took place at Eastbourne on 17
1780 September, 1780. It is reported that 'a stream of electrical fire fell upon the house occupied by Mr. Adair', next that in which Prince Edward [Duke of Kent] resided. Mr. Adair was struck insensible, his coachman and his footman were both killed, his daughter, marvellous to relate, was unhurt, though her bed was shivered in pieces.[2] There does not seem to have been any recurrence of a storm as severe as this until that of Thursday,
1783 10 July, 1783. 'About ten the storm was just over the town [of Witney], and both the burst of thunder and lightning, or rather sheets of flame, were without intermission .... many thought the day of judgement had come'. This tempest did not confine itself to Witney, but crossed Oxfordshire into Buckinghamshire, and its effects were very badly felt as far east as High Wycombe, where Wesley heard that 'the thunder had been uncommonly dreadful, and had torn up a field .... and turned the potatoes into ashes.'[3]

One of the most remarkable accidents caused by lightning without producing any very serious damage is recorded from
1786 Battey, Yorkshire, on Thursday in Whitsunweek, 1786. Lightning

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1. Ibid.
2. A.R.
3. J.W.J.

'struck the south east pinnacle of the church tower about five o'clock in the evening .... The finial of the pinnacle rested upon four stones, each weighing (upon an average) 112 pounds. These were driven away in different directions so suddenly, and so wonderfully, that the finial, as if unaffected by the shock, never lost its perpendicular, but was actually found resting upon the course of stone below, as though, it had been set thereon by the original builders.[1]'

1788 One writer[2] states that all the end of May, 1788, there was 'one of the most dreadful thunderstorms ever remembered in England', and that it was felt, as elsewhere, throughout the county of Chester. 'The storm was, however, but of short duration and went off with a plentiful shower of hailstones.[3]' The curious thing is that, up to the time of writing, no contemporary account of this storm has been found, which must not be confused with another in the same year on 15-16 August, when there was a great deal of rain and thunder.[4] Wesley writes of
1790 a great storm at Scarborough, on Tuesday, 22 June, 1790. The day was the hottest of the year, 'and about one in the afternoon, the thunder came near with thick flashes of lightning, and impetuous rain .... continued for an hour and a quarter. I never heard the like .... since my return from America.[5]' But this East Yorkshire storm was outclassed in the next year, in the

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1. E.P.
2. Hall.
3. Vide Ch. IV.
4. H.E.D.B. II.
5. J.W.J.

1791 West Riding, on 15 August, where thunder and lightning 'prevailed for two hours'. The lightning destroyed a house at Fenston, set fire to the furze on Sicklinghall Moor, deprived a girl of sight at Barnsley, killed a boy at Wakefield, and burnt a hayrick and cottage at Summerscales, near Skipton.[1] This year was destined to witness further damage, for two months later on 20 October, the tower of Rainham Church, Kent was struck.[2] A some-
1797 what similar accident occurred on Sunday, 30 July, 1797, when the church of Caldecot, Rutland, was struck, and the weathercock, the spindle, and part of the spire were torn away.[3]

The century closed with a very curious disaster, nothing quite like it having been hitherto recorded, which occurred on the Great North Road, at Tophall, where one of the old road-
1800 waggons was struck by lightning on 22 May, 1800. One of the seven horses was killed, and four others were stunned, while the lumbering conveyance and its load of woollen cloths, muslins, cottons, rabbit down and a piano were almost entirely burnt. The accident was a long remembered event for miles round, and one of the Doncaster Inns was renamed from it, the 'Burning Waggon'.[4]

1801 On 30 July, 1801, there was a violent thunderstorm in London and neighbourhood, followed by torrents of rain and a wind that was classified as a hurricane. A ball of fire struck

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1. H.S.
2. A.R. [1872.]
3. G.M.
4. C.G.H. G.N.R. I.

a house in Hoxton, and considerable damage was done in Goodman's Fields.[1] Two days later, on 2 July, the storm passed westward, and the church was struck at Corby, and a house shattered and completely burnt at Marksbury, near Bath.[2] At the end of the month there was thunder in Yorkshire, and a particularly sharp storm took place at Almondbury, on 31 July, when a man was killed.[3] References to balls of fire become more numerous as modern times are approached. In a thunder storm in Leicester and neighbour-
1803 hood, on 21 July, 1803, in addition to extraordinary hail,[4] 'a ball of fire', is said, to have struck a chimney at Rothley. A man, in the house, had his shoe stripped off one of his feet, but seems to have been otherwise unharmed. On the other hand, a man hoeing turnips at Liddington, Rutland, was killed by a flash, and near by a sheep and a cow were also destroyed.[5] Even, perhaps, more extreme than this storm, was that on 21 November, of the same year, at Batheaston, Somerset, a house in this hamlet was struck, about 8 p.m., in three directions, east, west and south. The roof was totally stripped of thatch, and twelve, out of fifteen, windows 'were literally shivered to atoms, and, in some cases, the lightning melted the lead of the panes. At the same time the roof of the church was struck, but here the damage was comparatively slight.[6]

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1. A.R.
2. *Ibid.*
3. H.S.
4. *Vide* Ch. IV.
5. A.R.
6. *Ibid.*

1804 A truly tropical storm burst over England on 4 May, 1804. At Bath it was said to be 'the worst in memory'. The same night it raged in Lancashire and Cheshire. At Bolton, it was described as 'a tornado'. At Houlton Park, 'a ball of fire' split and shivered an ash tree; and at Warrington several houses were shattered by lightning.[1] Disastrous as this was, worse events are recorded for 23 June. At Hanslope, Buckinghamshire, again, the storm was 'the worst in memory', and 'the elements seemed in one continuous blaze.' Added to this terrifying state of affairs, 'we were alarmed by the falling of the spire of our venerable and ancient Chruch which was laid in ruins with a most awful and tremendous crash.' Two mills were struck between Chester and Parkgate; the weather vane and Chapel were damaged at Halton, near Fordham; but the greatest tragedy of all, was that a sentry was blinded in High Street, Woolwich, because 'the firelock is supposed to have attracted the electric fluid.'[2] Another case of being blinded is reported from near Evesham, on 12 May, 1805, when three persons lost their sight from a brilliant flash, and only one is said to have recovered.[3]

1805 The year 1805, was a bad one for thunderstorms. In London, there was, on 28 June, a sharp, but very short storm when numerous windows were broken.[4] At Kingston-upon-Thames, on 6 July, there was 'a dreadful tempest', during which a house was

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1. Ibid.
2. Ibid.
3. Ibid.
4. Ibid.

struck, and the lightning 'melted the plate on the side-board', and set fire to the bedroom furniture.[1] At the end of that month Northumberland had some bad outbreaks, and on the 29th, a man was killed near Bellingham and another at Lawtown.[2] The next day the storm transferred itself to Birmingham and a man was struck at Deritend. Although his foot was very much discoloured and injured, he ultimately recovered. A house was shattered at Bourne Brooke, and an ash shivered in the same neighbourhood. At School Green, Staffordshire, five heifers were killed. Yorkshire was not exempt from this storm; the startling brilliancy of the lightning was commented on at Leeds; and a boy was killed at Long Preston where the heaviness of the rain was most unusual. But worse still was the accident at Scarborough. A ship, on the well known Tindall's Stocks, was struck and a man and a boy were killed outside, which an elderly man was killed inside the vessel. Exactly a week later, on 6 August, Yorkshire, again, had another storm, and near Doncaster a private carriage was struck, the coachman received a severe shock, and by the same flash three men and a cart-horse were 'thrown down'.[3] The South of England experienced the furies of a thunderstorm, mainly, on 6 September. In London it raged in the early morning from 5 to 7 a.m. A house was struck, part of the Park wall was demolished and several trees were split, in Kensington Gore. The storm is described as being 'very

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1. *Ibid.*
2. *Ibid.*
3. *Ibid.*

violent' at Canterbury; and, near Hythe, the lightning assumed the appearance of a 'ball of fire'. Nor did East Anglia escape, though in both Norfolk and Suffolk the damage done was rather due to a whirlwind than to lightning.[1]

1806 The next reference to a 'ball of fire' was on 4 May, 1806, when it is said to have fallen on a cottage at Claverand Green, Forest of Dean. In the room of the cottage was a cask of gunpowder for blasting purposes. Instead of an appalling disaster there was no damage.[2] Further storms occurred in May, when on the 27th, there was much thunder and lightning at Sunderland, and on the next day, in Monmouthshire the elements 'seemed to be in a perfect blaze'.[3] It is probable that no two months, in the history of the weather, have been so bad for thunderstorms as those of July and August, 1806. The outbursts were very general and occurred with little intermission throughout the period. The year, as shown, had started very badly, but there was a respite between the 'perfect blaze' of 28 May, until 7 July. Then began the series of storms that made the two months unprecedented. On that day, at the village of Hints, near Lichfield, four horses were killed by lightning, and a cow was killed at Uttoxeter. It was not until the 11th, that London was visited by a colossal storm between 8 and 11 a.m., when a house was struck in East Street, Manchester Square, and one 'ball of fire' fell into a house in Somerset Place, a second into the

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1. Ibid.
2. Ibid.
3. Ibid.

Thames, opposite Arundel Street, and a third into Newcastle Street. At Harrow a thatched hovel was struck, and the occupants, a woman and an infant, were both killed. The South Coast did not escape, and off Deal and Portsmouth ships were injured. The east and the Midlands suffered as elsewhere: a mill was damaged at Caistor in Lincolnshire and a boy killed. Cattle, sheep and pigs were destroyed near Bassingham. At Peterborough a 'ball of fire' fell in the market-place, and at Ashwell, Rutland a hay-stack was burnt. A very strange incident occurred in the Humber. A man, in a boat, near Hull, was killed, and 'his clothes were burned to rags and the case of his watch was melted'. About the same time a labourer was struck dead at Patrington and the block-house mill, near Hull, was seriously damaged. At Famlingham a barn was burned down, while at Ipswich the barracks were struck and two horses killed. 'The storm was truly awful' at Birmingham. Near Guildford an oak was split and stripped of its bark, while in the town itself a house was seriously injured. Oxen were killed at East Horsley; while at Meriton, near Exeter, a ghastly scene was depicted, the earth being torn from the graves and skulls were hurled a considerable distance.[1]

One would imagine from these descriptions that the storm of the 11th, was the worst of the whole series, and certainly it was very wide spread. That on the 14th, however, is said 'to have been one of the most extraordinary ever remembered in the

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1. *Ibid.*

eastern parts of the island.' The sky, for three hours, was very clouded. At Bury St. Edmunds there was a brilliant flash of lightning followed by what seemed a violent explosion repeated three times. The lightning was of an unusual kind, for it was 'exceeding red and dense'. A man was killed under a tree at Hardwicke; a poplar was split and stripped at Stamford bridge; the Church-tower was struck at Sunbury, Middlesex, and during the afternoon a hurricane passed over London.[1] From this time, the storms, though frequent, were less general and more local. There was 'blinding' lightning at Salisbury at 2 p.m. on the 16th, and a man lost his life. The next day twelve lambs were struck at Great Barton, Suffolk. On the 23rd, a man and his horses, sheltering under a tree at South Weald, Essex, were killed. The extraordinary thing about the man was that there were no marks except a small perforation through the crown of his hat. London was visited by a tropical storm on the 24th. 'The clouds descended to the very house-tops, and the city was enveloped in darkness'. 'A ball of fire' fell on a mooring post in the Thames, and shivered it. A man was struck in Drury Lane but recovered. The next day the neighbourhood of Peterborough suffered. One 'ball of fire' fell in Etton-field, near the city; and another at Woodcroft, but both failed to do any harm; a third fell into a chimney in Bisbrook, near Uppingham, where damage was done to the building, but no lives were lost.[2]

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1. Ibid.
2. Ibid.

The country had a respite for about a fortnight; but the storms were renewed on 9 August, when, at Bushey Heath, a woman's body was burnt 'to a cinder' and her limbs torn apart, one of her legs being found twenty yards away. At the same time, near by, a cottage was damaged and a child, in it, was killed. This storm was very wide spread, for it 'was extremely awful at Newcastle', and between 4 and 8 p.m., it was 'most dreadful' at Carlisle. A brewery was damaged in the city, a 'ball of fire' smashed a barn at Linstock, and a cow was killed at Coldbeach. Ten days later, another storm raged throughout the kingdom. Near Henley a 'ball of fire' fell; near Huntingdon, a boy working in a barn was killed and the barn burned. Livestock perished at Deeping Fen, Haddon, Cambridge, St. Osyth, Rudford, Tewkesbury, Witney and elsewhere. At Goodmanchester 'balls of fire' entered the workhouse and a neighbouring hut, in the latter a boy and man were killed. Other deaths were reported at Stapleton, Godstone, Surrey, and Rayleigh, near Shrewsbury. A man was knocked senseless, near Bath, and lay for twenty days in a wood, unable to walk but kept alive by a small quantity of rain water which he could manage to reach. What might have been even more serious was at Twyford-bridge, when the coach was thrown into the stream owing to the horses being frightened by the lightning.[1] In Lancashire, on the 25th, there was another outburst at St. Helen's, where a miner was killed while looking out of the window, his watch and chain being melted. On the same

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1. Ibid.

day, there was lightning at Hurst Green, Sussex, where, when a house was struck, the clock was splintered and plates were broken into a thousand pieces. This extremely unpleasant series of storms seems to have subsided for the time after 'a most tremendous storm' at Bath and in the South-West, on the 31st, from 2 to 4 a.m., when a 'ball of fire' fell on a house at Tiverton which entirely consumed the dwelling. A house and stables, with the loss of six horses, were also burnt near Gloucester. This famous year, 1806, closed in another blaze, particularly in the North. There was, on 29 December, at Alnwich much thunder and lightning; at Whitehaven the flag-staff was shivered by lightning, and at Liverpool much damage was done. Thus ended this stupendous year of thunderstorms.[1]

1807 It must not be supposed that the immediate years to follow were without electrical disturbances. It was 'remarkably sultry and hot weather', in Staffordshire, on 1 May, 1807.[2] On the 2nd, there was lightning and hail, in the Leicester country;[3] on the 12th, the long-suffering Whitehaven, had a 'tremendous thunderstorm';[4] on 22 July, there was 'a most awful and tremendous storm of Thunder, Lightning, Hail and Rain' at Eaton-under-Heywood, Salop;[5] and, presumably, a similar storm at Kendal on 5 September.[6] But these were normal outbursts; and the next

1808 really celebrated storms were in the great heatwave[7] of July, 1808. The main storm was on the 15th, and was, for the most part, in

1. Ibid.
2. W.D.D.
3. Vide Ch. IV.
4. A.R.
5. Reg. Eaton-under-Heywood.
6. A.R.
7. Vide Ch. II.

the West of England. The thunder at Bristol was 'one continuous roar for upwards of an hour and a half.'[1] The masses of ice which fell in Gloucester bore no resemblance to hailstones.[2] It was in the city of Gloucester, too, that a 'ball of fire' burst in the College Green and carried away a pinnacle on the west of the Cathedral.[3] At Frenchay and Kings Weston, Somerset, 'the storm was tremendous'; a sheep was killed at Keynsham and much damage was done at Radstock.[4] The second bad storm of that hot summer was mainly in the metropolitan area. A 'ball of ice' entered a house at Walworth; and lightning did great damage at Putney, Barnes, Fulham and Deptford.[5]

1809 The storm that opened the thunder-season of 1809, occurred on 15 May, at Stamford when a tree and a house were struck.[6] Three days later, there was a severe outburst at Wallthamstow, but the destruction caused was mainly due to hail.[7] Much the same may be said of the London tempest on the 19th, which was very violent about 5 p.m., but again the crashing hail was the more awful part.[8] At Bushey, on 4 July, there was brilliant lightning and heavy hail.[9] A terribly serious accident occurred owing to the flashes of lightning, near Colnbrook, on the 26th, when, the horses of the Bath coach were so frightened and became

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1. A.R.
2. *Vide* Ch. IV.
3. A.R.
4. Ibid.
5. Ibid.
6. Ibid.
7. *Vide* Ch. IV.
8. A.R.
9. F.D.

so restive, that the vehicle was overturned, and one person was killed and nine were injured. The same day, at St. Albans, there was a long continued storm, during which 'the atmosphere appeared like a sheet of fire'; and, at the same time, in different parts of Norfolk, numerous cattle were killed. The next evening at Boston, there was a 'most alarming tempest'; four houses were struck by 'balls of fire', and at Kirton, a mare and a foal were destroyed.[1]

There can be little doubt that the thunderstorms of July are more conspicuous in some ways than similar storms in other months, though, as already remarked, winter thunderstorms won the particular attention of the early chroniclers. The storm
1810 on 3 July, 1810, at Ramsgate, was probably severe, but all information as to the effects of the lightning is swallowed up in the marvels of a water-spout.[2] On the 14th, and 15th, of the same month, there is an item recorded which does not occur very frequently, but to which reference has already been made, and that is, accompanying the electrical discharge, the air was impregnated with such strong sulphur 'as to become quite offensive'. At the same time at Kilburn Wells there was a brilliant 'ball of fire'; and the coachman and a passenger on the Watford Coach were struck, and the ring on the finger of the latter was fused. One man on Bexley Heath and two others, seeking shelter under a tree, at Canterbury were killed. On the second day the storm was, particularly, severe at Windsor, and at Wellingborough,

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1. A.R.
2. Vide Ch. V.

where, in the latter case, a house was damaged. London was, again, visited at 2 p.m., on 5 August. During this storm a house was struck with considerable damage at Lambeth; and another, in Westminster where all the bell-wires were melted.[1]

1813 Thunderstorms began early in the year, in 1813. On 6 May, the steeple of Greenwich Church and the fabric of the church of Stepney were injured, while numerous trees were shattered in Vauxhall Gardens. At Margate, on 24 July, a couple of friends, riding on donkeys, were struck: one was killed instantaneously: while the other, if it is possible to believe, survived, although he had his shirt scorched almost to tinder. The following year,

1814 the heat of 14 June, had been round about 85°; and early the next morning, at 3 a.m., there was a violent thunderstorm over London.[2] That year between 21 and 28 July, the weather in Cheshire was remarkably hot,[3] as, indeed, it was elsewhere. At Rearby, near Melton Mowbray on the 28th, there was such a storm that it 'horror-struck every person in the parish'. The lightning was almost incessant and it is said, to have 'scorched a table cloth' when spread on the table. At Stamford some buildings were unroofed, and at Spalding an inn was damaged by the lightning.[4] The next day in a Staffordshire diary there is the rather curious reference, 'an awful visitation of Providence at Tamham, eleven lambs killed under a tree by lightning.[5]'

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1. A.R.
2. Ibid.
3. Hall.
4. A.R.
5. W.D.D.

1815 Waterloo year is famous for its heat,[1] and with it came thunderstorms, one, as early as 2 May, and which raged at Addington, Surrey, from noon to 6 p.m. But so great was the damage by hail[2] and flood that the attention of the recorder was completely diverted from the effects of the lightning. A similar storm with damage by hail occurred on a Sunday, early in
1819 July, 1819, at Dereham; on the following day there was disastrous thunder and lightning at Sedgeford, where the steeple was struck, at a time when many children were in the church. A girl in the village schoolroom, near by, died, but her death was due to fright and not to lightning.[3]

1820 The accession of George IV, after long waiting for a dying man's shoes, was marked, in 1820, by a year of great heat and consequent storms. On the night George III died, 29 January, there was a violent storm at Bath. On 21 July, there was an outburst at Sheffield, at 4 p.m., when in one of the works of the town, where some men were making a casting, the 'electric fluid' entered the workshop immediately followed by a violent explosion.[4] The burning heat of the summer continued into September;[5] and, on the 21st, there was a memorable storm in Oxford during which a house was damaged in St. Clements, the bark was torn off two trees near by, and a child was injured by the lightning, but recovered.[6]

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1. F.D.
2. Vide Ch. IV.
3. A.R.
4. Ibid.
5. W.D.D.
6. A.R.

1821 A 'tremendous' storm occurred early in the year 1821, on 2 April, about midnight, in the West of England. At Bristol, the beams and bells on the N.E. side of the Redcliffe Tower were damaged. At the same time three cwt. of stones were dislodged. At Stanton thirteen sheep were killed, and it was noticed that the appearance of their fleeces was remarkable, as 'the wool upon the whole of them appeared singed in one direction'.[1] It was not, however, an unpleasant year, most of May was beautifully fine;[2] but on 20 July there was a crashing storm in Yorkshire.[3] 'During an alarming storm of thunder and lightning says the annalist, 'the electric fluid struck Manningham Hall, nr. Bradford, .... and having thrown down a stack of chimneys, passed through the dining room, where about thirty persons were sitting, but fortunately they were but slightly injured: most of the bell wires were melted, and the walls of the apartment bore visible marks of the awful visitation.[4]' The year closed with a terrific storm at Newbury on Thursday, 27 December, when there was the accompaniment of hail, and the river was soon in flood.[5]

1824 The tempest on 14-15 May, 1824, was a somewhat peculiar one, for in most parts it consisted of a tropical downpour of rain,[6] rather than of any horrors attached to lightning. At Elm Park, however, the thunderstorm was very violent and a woman was struck, her hair being 'burned quite to the roots'; and yet she was not

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1. Ibid.
2. W.D.D.
3. Within a few hundred yards of this spot R.W.J. remembers damage by lightning on 12 July in three consecutive years.
4. H.S.
5. W.M.
6. Vide Ch. V.

killed outright though she expired after some few days.[1] Following this there were some very nasty storms throughout the country, although, there is no reason to think that the thunder and lightning of 1824 could vie with that of 1806. In Leeds, on 30 June, a boy was struck, his hat was torn in pieces, his hair was singed and his neck and breast scorched. In the same storm at Killingbeck Park an oak and other trees were uprooted and deprived of their branches. At Woodhouse, a dwelling was damaged in a curious manner; in the upper room the bed posts were split and the bed hangings badly scorched. A fortnight later, a storm passed over London at 9 p.m., on 14 July; at Wolsham trees were shattered; and at Richinghall a house was damaged by a 'ball of fire'.[2] East Anglia had its storm on 3 August;[3] but here the injury that resulted was entirely due to hail.[4] Once again the West Riding had a notable storm, particularly on Stanbury Moor,[5] near Haworth, on 3 September; the interest however, lies not in the thunder and lightning, though there was plenty, but in the fury of the hurricane and in a most peculiar and noxious inundation.[6]

1826 It would probably be incorrect to classify the year 1826, as exactly similar in storm intensity with that of 1806, but our grandfathers, in the latter year, must have marvelled at

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1. A.R.
2. *Ibid.*
3. *Ibid.*
4. *Vide* Ch. IV.
5. A.R.
6. *Vide* Ch. V.

the awful powers and the majestic effects of disastrous electric disturbances. The year, from May onwards, was remarkably 'warm.'[1] By 18 June the weather was 'intensely hot'.[2] On that day, at Ashton-under-Lyne there was a storm in which a woman was killed, and a bed-post split asunder. About the same time ('Saturday last') at Alphington, near Exeter, the Church Tower was struck. It happened that the bell-ringers were below the belfry at the time, and they were prostrated; while a boy, 'having an iron-hammer in his hand was killed on the spot.' The shoes of three of the 'prostrated' men, 'were severed into entire shreds'. 'The vane of the tower was much distorted', and, as an extra piece of destruction, the communion-table was dashed to pieces.[3] Shortly after a horrifying accident happened to a picnic-party at Malvern, on 3 July. They had the misfortune, during a storm, to enter a building with an iron roof, which was struck by lightning. A stone-table in the building was splintered into fragments, and two ladies of the party were killed, their faces, necks and breasts being burnt.[4] About the middle of this month, after a long drought, 'one of the most severe thunderstorms ever remembered prevailed in the neighbourhood of York'; a man was killed at Tadcaster and a woman also, while haymaking, at Wetherby.[5] Further damage was done by the lightning at this time, as it was the cause of numerous moorland

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1. W.D.D.
2. Ibid.
3. A.R.
4. Ibid.
5. H.S.

fires in different parts of the county. London had its great storm on 4 August, but in this case destruction was mainly by flood and not by lightning.[1] The City, was, again, visited by a 'terrific tempest of thunder and lightning', of which it was said that 'this storm was literally a tornado.'[2]

1827 Three main electrical disturbances marked the year 1827. Although April, in the Midlands, came in calm and mild,[3] at Dulverton, Somerset, on the 16th, there was a sharp storm, during which a labourer was killed, and his 'clothes .... were scattered in countless pieces around him, some driven into the earth .... and .... the enamelled face of his watch was completely destroyed.' Besides this, a peculiar point was noted at the time, that the nails were forced out of his shoes.[4] The second bad storm of the year was at Addingham, near Otley, on 26 May. A man was struck in a cow-shed and his 'hair was singed to the skin'; one shoes was torn in pieces and his hat could not be found. And yet, the man ultimately recovered, but always remained deaf. The third 'very heavy tempest' was on 11 October, mainly in Hackney, where a house was struck, the copeing stone smashed and some wainscot split.[5]

1828 The storms of 1828 were numerous and widespread. A strange incident occurred on 5 June, at Broadstairs when lightning having, so it is said, descended a chimney, smashed hat-boxes, tables, a

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1. A.R.
2. H.E.D.B. II.
3. W.D.D.
4. A.R.
5. Ibid.

looking-glass and the window. But what was still more unusual all picture frames were affected and 'more or less bronzed'; and with it all, there was 'a strong sulphurous smell'. There was, however, no loss of life, although two women, who were in the house, were knocked down. Ten days later, at Ongar, lives were lost, when the church was struck during Divine Service.[1] At Uxbridge, at 3 a.m., on 3 July, there was a considerable storm which caused the death of an elderly lady, but this was attributed to fright and not to electric fluid. A house was struck in Alfred Street, Stepney, and a man was killed, on the 15th. He was found to have been marked in a very curious way with 'spots and streaks'. A less disastrous result of the fall of a 'ball of fire' took place at York, on 3 August, when, first, the ball entered a barn in Thief Lane, and then a house; but the death roll did not contain anything more important than a
1829 cat.[2] Ongar was again unfortunate at 5.30 p.m., on 18 June, 1829, when a windmill was completely shattered, and 'the miller shockingly mutilated .... splinters of wood and even grains of wheat .... were found driven into various parts of his body. The hair of his head was much singed .... His .... cap was torn into innumerable pieces.'

1830 Thunderstorms began early in 1830. The district of Manchester was visited about 3 p.m., on 8 April, by a 'great' storm. Sheep were killed at Denham Park, a cart was damaged at Broughton bridge, and a house was struck at Pendleton. London

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1. Ibid.
2. Ibid.

had its annual outburst on 23 May, when a woman was killed in Mile End, New-town, and 'her cap, hair and eye-lashes were much burnt. Her skin was much discoloured, and one of her shoes was rent in pieces .... and torn from her foot, which did not, itself, exhibit the least laceration'. Another woman, at Tulse Hill, was blinded. The storm extended as far north as Derbyshire, and a man at Buxton had his umbrella shattered, but he himself was unharmed. A still more remarkable escape this year, if it is true, was at Horsforth, near Leeds, where during a very violent storm a child was not killed, but, so says the report, burned on the right arm with an impression of a plant, which had been in a pot close by. An almost equally astounding miracle seems to have happened in an Independent Chapel, in Bolton, Lancashire, on the 4th, which was struck by lightning, and some of the congregation, avowed that their faces and arms were scorched;[1] but none died from the effects.

The traditional July and August thunder was repeated in

1831 1831. Berkshire and the counties of Oxford and Gloucester were visited by a terrifying storm on 11 July. At Henley, sheep were killed; at Oxford, Magdalen College was endangered, not only by having a pinnacle of the glorious Tower struck, but also by a part of the roof of the College being fired. At Litcombe, near Wantage, a house was struck, but the five persons in it remained unharmed; while, a man on horseback, near Cricklade, taking

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1. Ibid.

shelter under a tree, was killed, and the tree shattered.[1] A wide-spread storm raged from Lancashire to Kent on 17 August. In Liverpool the damage was mainly due to rain; but, in London, near Hyde Park Corner, a coach-horse was killed by lightning. At Maidstone eighteen sheep were destroyed under a stricken tree.[2] Liverpool, peculiarly unfortunate in records of tempests, rains and thunderstorms, suffered from another severe one, on 12 June,
1832 1832. This storm, however, was not confined to Liverpool, as a labourer was killed while sheltering under a tree at Walton, near by; and a woman was partially paralysed after a house was struck in Stafford. In the year, 1832 there is the first reference, for many years, to a winter thunderstorm, when a 'very severe storm prevailed in London on 2 December.[3] The afternoon of that day, had been fine and cold, then followed a hail storm, with very vivid lightning. A vessel was struck at Gravesend, the mast was splintered and the sails torn to ribands; and, at Stepney, Bromley, Deptford and Greenwich there was much damage.[4]

Another thunderstorm, which may be regarded as a winter one,
1835 was on 8 February, 1835, in Yorkshire. Two churches were struck in Huddersfield, the spire of Laithwaite Church was bent out of the perpendicular. The weather-vane of Golgar Church was damaged in a most peculiar manner. The top of the vane was,

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1. Ibid.
2. Ibid.
3. Ibid.
4. Ibid.

apparently, uninjured, but at the bottom of the rod, the stones were ejected and flung a considerable distance. It is of importance that the recorder of these accidents points out that neither church was fitted with lightning conductors.[1] In addition to these disasters to ecclesiastical edifices there were some instantaneous deaths caused by lightning in May and June. On Friday, the 15th, of the former, a schoolboy, in Walcot Place, was, apparently, struck under the ear with immediate fatal results. His hair on the right side was badly singed and his neck much discoloured. This same discolouration was noticed on the face and body of a woman killed at Preston in a storm that swept over Lancashire on 4 June. The day before, the storm had been at Manchester, about 2 p.m. and a man was killed. There is no reference to discolouration in this case, though both his hair and whiskers were burned off. The severity of this storm was very marked at Hulme, where six houses were shattered.[2] A similar storm on the 9th, destroyed buildings at Leicester and Newmarket, and, in Cambridge alone, the cost of repairs was estimated at £2000. On the next day, the western tower of Durham Cathedral was struck, and a mass of stone was hurled to the ground crushing two persons to death.[3]

1836 During the next two years thunderstorms do not appear to have been so frequent. Magdalen Tower, Oxford, was, once more unfortunately, injured on 15 July, 1836.[4] Later in the year,

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1. H.S.
2. A.R.
3. Ibid.
4. A.R. [1844].

there was a tragedy at Penrith, on 25 September. A coach was passing the 'Greyhound Inn', when the horses were startled by a sudden crash of thunder, they plunged so much as to upset the coach, whereby one passenger was killed instantaneously, and four others were stunned.[1] No other remarkable incidents, how-
1838 ever, apparently, occurred until 1838. London was visited by a storm on 31 May, when 'a thunderbolt entered the front room window .... in East Street, Lambeth Walk', about 8 p.m. It passed through the staircase, 'shivering the wood into a thousand pieces', and entered the adjoining house. Although both houses sustained considerable material damage, and several persons were 'struck by the electric fluid', all 'escaped without the slightest injury'. A far more tragic and astounding incident occurred on 13 June, at Halton, near Spilsby, when, during a storm, a child put a tin bucket on its head to protect it from the downpour of rain; whereupon 'a splendid coruscation resembling a .... pyramid of fire, was observed .... followed by a most tremendous clap of thunder'. The child was immediately killed, 'the chin and right side' were scorched and blackened, and the clothes rent in pieces. So great was the concussion, that labourers, in the vicinity, were thrown against each other.[2] Shortly after this there was a severe storm in Lancashire, on the 25th. At Preston it continued for five hours; at Garstang two labourers were killed; another at Longton; and several houses were

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1. C.G.H. M. and G.R.
2. A.R.

shattered at Preesall. It was followed by serious inundations. This was also the case after a violent storm on 4 July at Stainborough, Dodworth and Silkstone, near Barnsley. Again, on the 6th, Manchester, Rochdale, Bolton and Preston, together with several towns in Yorkshire, had a great storm. The same two counties, suffered on 28 August, 'one of the most terrific storms of thunder and lightning' in their history. A man was killed in Manchester; another was struck blind in Leeds. Two horses were destroyed in Tadcaster, although their riders were marvellously preserved. At both Leeds and Bradford cattle were killed, and throughout the district, 'several persons were thrown down by the .... lightning and remained speechless for some time'. A most serious accident happened to 'The Royal Mail on its way from York to Leeds', when it was 'overturned a short distance before .... Tadcaster'.[1]

1841 Another winter storm of violent character is recorded for 3 January, 1841, when, throughout London, there was 'most vivid and dangerous lightning'. The spire and roof of Spitalfield's church was struck. The lightning 'melted the iron wires connected with the clock .... and broke many windows', tearing a great piece out of the wall.[2] At the same time, 'the first flash .... which was of a terrific nature, illuminated the whole horizon, and in its progress struck the steeple of Streatham Church', and set it on fire, damage being estimated at £100.[3]

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1. Ibid.
2. Ibid.
3. Ibid.

Amongst other less disastrous summer-storms, at this period, was one at Whittington, Staffordshire, on 23 June, when, in 'an awful storm', a cow was killed.[1] There was 'a terrific' outburst, at Liverpool, on 29 August, during which the spires of St. Michael's and of St. Martin's-in-the-fields, were struck. At the latter considerable injury was done; 'the displaced stones fell on the roof, which they broken through, and damaged the organ and the interia of the Church'.[2]

What might be classified as an extraordinary summer-storm
1842 passed over London at midnight on 27-28 July, 1842. For sometime there had been 'extreme heat',[3] and the day before the outburst, the atmosphere was very sultry, and 'the heat exceedingly oppressive'. The lightning and the thunder were terrific. The storm arose in the S.E., and spread N. It was most severe at Camberwell, Newington, Vauxhall, Hammersmith and Westminster. The spire of the church of St. Martin's-in-the-fields was rendered unsafe. A policeman was stunned and many other persons were injured. A most interesting point connected with this storm was one that had never been recorded before, and in any case it could only have happened in very recent years before this date. On the railways, which were now becoming fairly numerous, the effect was remarkable. 'The lightning .... flitting and dancing upon the rails as if it would, for the time, light the way for the engine .... was a scene that cannot well be described'. This storm, though general throughout the Kingdom, was particularly severe at Southampton, Melton Mowbray and Norwich. It

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1. W.D.D.
2. A.R.
3. W.D.D.

is said to have 'raged with great fury', at Brighton, Hastings and Dover. At Devizes the steeple of the Church was 'rent in twain', the bells were damaged and the works of the clock destroyed. In other parts the mails were endangered by the horses becoming unmanageable.[1] After this there seems to have been 'a glorious summer' and 'glorious weather into October'.[2]

1843 It is probable that the inhabitants of North Oxfordshire were more alarmed by the visitation of thunder, lightning and hail in 1843, than in any year before or since. At Enstone, about 5 a.m., on 9 April, there was a startling thunder clap, and the 'electric fluid .... with the appearance of a ball of fire .... struck a stack of chimneys ....and threw down all the upper part of it .... the stone work was broken and scattered about ..... every article of crockery was destroyed, clothes that hung against the walls were spoilt by singing .... but marvellous and merciful to relate, no human being .... had even a hair of the head singed.'[3] But far worse was to come. The month of August was 'extremely hot'.[4] 'It may be doubted .... whether the succession of storms that occurred on the 9th, .... in the middle of the day in Oxfordshire and in the afternoon and evening at Bedford, Cambridge and in the county of Norfolk, were parts of the same storm .... for a similar visitation was experienced at Rochester .... about the same time that the storm

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1. A.R.
2. W.D.D.
3. Rev. J.J.
4. W.D.D.

was at its height at Cambridge.'[1] The day before a traveller on his way to Cheltenham, 'describes the oppressiveness of the weather as very great, and even imagined, so cumbersome was the air, that it was poisoned with a sulphurous taint'. That day there were heavy rains in the counties of Gloucester, Worcester and Warwick. Before the bursting of the storm on the 9th, when 'the oppressiveness ........ Was observed by all', the labourers complained of 'the smell of sulphur in the air'. A little before noon the storm began; by twelve o'clock, the thunder had become incessant .... but the storm rode extremely high'. As time passed 'the lightning became very vivid'. This was followed by 'an extraordinary and awful sound in the air .... it resembled, in some degree, the roar of the ocean .... it came on steadily for five or ten minutes'. It was the hail, which did incredible damage.[2] And when the 'hail and the rain had ceased .... it left us [at Enstone] in the very midst of clouds that were discharging lightning, accompanied by heavy thunder, from every quarter of the heavens. The whole afternoon this continued .... the lightning be very grand.'[3] The storm was regarded by contemporaries as 'one of the most remarkable on record'[4]; and severe though it was it did not prevent the autumn coming in 'with glorious harvest weather'.[5]

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1. Rev. J.J.
2. _Vide_ Ch. IV.
3. Rev. J.J.
4. _Ibid_.
5. W.D.D.

After such a 'tempetuous ebullition'[1], other storms for some time to come, appeared rather feeble. Once again, on 18

1844 July, 1844, Magdalen College, Oxford was struck and several large stones were hurled into the street.[2] There was a violent storm in South Wales on 3 August, but there was only 'trifling injury'.[3] A real storm burst over most of England on 24 June,

1846 1846. It raged in the Northern counties where human lives and cattle were lost. In the Midlands, at Melbourne, two persons were killed; and, at Rugby, a man was killed under a tree, while his two companions escaped. In the West, it was also, violent. A large number of sheep were destroyed in the Mendips, and one side of a house was demolished at Barnstaple. The storm was the natural outcome of a long period of intense heat and drought;[4] during which the temperature reached 95° in London.[5] This crashing alleviation, however, was very temporary, and heat and drought continued leading on to another big outburst in London and elsewhere, on 1 August;[6] but this was mainly celebrated for its downpour of hail.[7] The lightning did, however, take its toll. In Surrey, 'churches, chapels, manufactures and private dwellings were all severely damaged', during the storm which started about 2 p.m., reached its height about 4 p.m., and terminated about 6.30 p.m. Much damage was done in the parks

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1. Rev. J.J.
2. A.R. cf. 1836.
3. <u>Ibid</u>.
4. <u>Nature</u>, 1930.
5. A.R.
6. <u>Nature</u>, 1930.
7. <u>Vide</u> Ch. IV.

of Windsor and Ditton. At Leicester, the spire of St. George's Church was struck; in Cardiganshire, twenty five houses were partially destroyed; and at Liverpool, though there was not much destruction, it continued for three days. A week later another heavy thunderstorm caused floods in the West, particularly in the Bristol neighbourhood owing to the swelling of the Frome and Avon.[1] These summer tempests concluded and with a hail-storm at Camberwell on 15 August;[2] and the drought ended about 23 September after a good harvest.[3]

1847 Londoners must have been frightened that they were going to have a repetition of the storm of the previous 1 August, when, between 1 a.m. and 2 a.m. a violent storm burst on 7 July, 1847. It did not prove, however, quite so bad, though it was sharp enough and caused damage. A house was struck, near Greenwich Hospital and burst into flames. Unfortunately the fire spread and many other houses were destroyed. At Bermondsey and Walworth, house property was also injured by the lightning; besides 'the concussion of the thunder shattered the windows of the houses around and put out a good many of the street lamps. A policeman was knocked down in .... Lambeth, and was scorched
1848 but not fatally.'[4] The following year, on 2 April, Yorkshire was visited by 'a terrific storm', which was also general in Lancashire.[5] During that summer, on 25 August, a great storm

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1. A.R.
2. Rev. J.J.
3. Nature, 1930.
4. A.R.
5. H.S.

occasioned the death of a man at Drax.[1] Whitby had its electrical
1849 disturbance on 12 July, 1849, when 'two of the large flags with which the quay on Staithside is paved, were observed, after one of the vivid flashes of lightning, to be covered with a violet-coloured lambent flame that played about the surface for about twenty minutes'.[2] !! A man while fishing at Fakenham, Norfolk, was struck dead on the 24th. Two days later, many houses in Whitechapel were damaged; the clock-tower of St. Saviour's, Southwark was injured; and a man lost his reason.[3] The end of the month was marked by 'exceeding propitious' weather.[4]

1851 The July and August of 1851, were not unlike those months in 1806. From end to end of the Kingdom there were numerous thunderstorms. On Thursday, 17 July, a storm stretched from Norfolk to Worcestershire. Near Lynn sixteen lambs, under a tree, were destroyed, and in Worcester a labourer was killed. The next day a woman was killed at Colchester where several houses were struck. On this day the storm extended from Kent to Durham. The north pinnacle of the Tower of Rochester Cathedral was hurled through the roof. Amongst other damage a stack at Bredgar was set on fire. At the same time houses were destroyed and a boy killed at Sunderland.[5] The thundery weather continued, and there was an outburst in Yorkshire on the 29th.

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1. Ibid.
2. Ibid.
3. A.R.
4. Ibid.
5. Ibid.

A barn was struck and two persons killed at Wigginton; 'at Ripon, for two hours, flash succeeded flash, and the explosions of thunder were terrific'; a young horse was killed at Stokesley. This tempest, however, did not seem to clear the atmosphere, for in a week, on 5 August, there was another, mainly in the West Riding but stretching as far south as Nottingham. A marvellous tale comes from Keighley, where the lightning, after having passed through an overhanging ash tree, struck a cottage, and one child was killed. Another child, who survived, 'had an exact representation of the ash tree .... upon its back, with the branches and leaves complete, as if it had been burnt on with an iron stamp.'[1] In addition to this astounding manifestation, a man was killed instantaneously at Scaftsworth, Nottinghamshire. A week later, on the 13th, there was heavy thunder in South Lancashire. The Tower of Blackley church was struck; much damage was done at Stalybridge, and in some houses bell-wires were fused and dropped to the floor as red-hot bits of metal. The next day an even worse storm visited the district and seriously injured the crops.[2]

1852 It is probable that during the summer of 1852 the thunder and lightning were more violent than in the previous year. The storms began earlier and ceased later. On 21 June, accompanied by hail,[3] there was a tempest in Manchester and Eccles, where in the latter a mill-chimney was struck. In the West of England

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1. Ibid. Cf. 1724, 1830.
2. Ibid.
3. Vide Ch. IV.

on 5-6 July, there was torrential rain particularly in Gloucestershire. It is stated that the lightning was of a peculiar violet colour. Three storms converged on Bristol, at the same time, and a little further to the West, the steeple of Ross Church was struck. On the second of these days the storm had travelled north to Hanley, in Staffordshire, where a man was killed, and unlike any previous account, it is recorded that his body was 'reduced to a black shapeless mass'.[1] On the 13th, the little town of Newent was devastated by a thunderstorm, but the damage was mainly due to very large hailstones.[2] On the 16th, mills were struck at Colchester and the spire of Woolport Church was destroyed. There was much fork lightning in the London district on the 25th, when houses were struck at Walworth and many persons temporarily blinded. At 10 a.m. on 10 August houses were damaged in Manchester and four workmen killed. Three days later Bristol was again seriously visited and houses in the neighbourhood of Weston-super-Mare were inundated. The storm was back in Manchester on the 17th, when a house was struck. And on the same day more thunder burst over London accompanied by much hail. The extreme south west of England was not to escape its regular August storm. At the end of the month a house was struck in Exeter, and a woman, sheltering under a tree was killed, and when found, her clothes were on fire. The truly fiendish storm of the season was 4-5 September. Though it was mainly in the counties of Worcester, Hereford and

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1. A.R.
2. *Vide* Ch. IV.

Gloucester, it also raged in Sussex and in Derbyshire. In the first three counties the inundations caused by the torrential rains which accompanied the thunder, were terrifying; in the neighbourhood of Derby several houses were struck by lightning. At Lewes, a boy was killed and 'his body was blackened all over: his clothes were wrenched from his back and the hobnails drawn from his boots.' The storms of this month closed, in violence, on the 28th, at Sutton Valence, where four persons were killed while working in a hop-field.[1] In addition to these horrors, it is to be remembered that 1852 was the 'year of great floods'.[2]

A storm attended by remarkable, and fortunately, unusual
1853 circumstances, took place on 23 February, 1853, at Lincoln. The day had been bright and fine, until, suddenly during the afternoon it became overcast. At 4 p.m. 'a ball of fire descended upon the centre part of the Cathedral', and burst 'emitting rose coloured flames'. The vast edifice was almost immediately on fire, which was only extinguished by the ready co-operation of many willing workers who passed buckets, from hand to hand, up a narrow staircase. This providential escape of the Cathedral alone made 1853, from a meteorological point of view famous. There were, in addition, however, severe thunderstorms in the counties of Hereford and Gloucester in the early part of July, during which horses and cattle were killed. The rest of the year was mainly wet and consisted of 'cold and blighting weather'.[3]

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1. ? A.R.
2. Vide Ch. V.
3. A.R.

1854 Some curious misfortunates due to lightning occurred in 1854. Three men were killed at Leeds on 2 May. The clothes of one of them were torn in pieces; and a saw, which was in the hands of another, was cut in half. A remarkable escape was recorded at Alfreton, on 29 June. A surgeon, while driving his gig, was killed by lightning, a small boy, under the same umbrella, was uninjured, and the horse was only slightly hurt. The hottest day that summer was 25 July, and there were thunder-storms in many parts, but chiefly in South Wales accompanied by great floods. A terrible accident happened on 10 August, at Capel St. Mary, near Ipswich, when the National School was struck. The window was driven out; and the end of the building was split from top to bottom. The schoolmaster was, for the time, blinded, and thirty children were hurled to the floor. Three of these little unfortunates were killed. It is miraculous that the others escaped, as the building was soon a mass of flame and entirely consumed.[1]

1855 An incident, which might have been expected to be fairly common, but which happens to be extremely rare, occurred on 4 October, 1855, at Liverpool, when there was a terrific explosion in a fire-work factory, caused by lightning. The fireworks were in unusual quantities as they were intended for the celebration of the British success in the Crimea.[2] Four of the work people perished, and not only the buildings of the factory but several other houses were destroyed.[3]

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1. Ibid.
2. Sebastapol fell on 8 September.
3. A.R.

1857 The temperature in July, August and September, 1857, was considerably higher than the average of the same months during the previous eighty-six years. The sick and wounded returning from the horrors of the Indian Mutiny found an English summer almost tropical. Part of the time was very brilliant, but there were some bad storms in August. Buildings were struck in London on the 13th. At Southampton the tempest raged 'with violence'; and during and after it there were floods in many parts. At Whitchurch, Salop, over three inches of rain fell in three hours; and at Windsor Castle the flag-staff was splintered by the lightning. To a somewhat lesser extent the storm returned the next day, and, amongst other places, visited Lincoln accompanied by torrential rain. This heat passed into the next

1858 year, and June, 1858, was the hottest on record except one. On the 10th, there was a most tremendous thunderstorm in North-west Dorset, which was claimed to be the most terrific that had occurred for fifty years. At Rose Hill, nr. Oxford there were fourteen flashes in thirty seconds.[1]

1859 The year 1859, was another particularly thundery period. At Chelmsford, on 29 May, a builder's yard was set on fire, the windows in an Independent Chapel were shattered; and men were killed at Fornham and Ely. The next day there was a tempest at Beeston; and on the 31st, a mighty storm passed over Bristol, although, at Epsom, the Derby was run in magnificent weather. At Camden Town, on 4 June, the reverberations of thunder were

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1. Ibid.

absolutely continuous for forty minutes. On Whit Sunday, 12 June, at 1.30 p.m. a vivid flash gave the signal for a bad storm, and dwellings were struck at Norwood, Sydenham and Dulwich; the storm however, was not confined to this area, as it was severe, with hail, as far west as Chippenham.[1] For a day or two there was fine weather including the Ascot Races, but on the 26th, the London district was again terrorized. A man was killed on Clapham Common, while other signs of violence were to be found at Wandsworth, Cheam, Epsom and Erith. This, however, did not clear the electrical disturbance from London, for, on Saturday, 2 July, at 10 p.m. there was another heavy storm. A woman was killed near Newington Church and three men suffered the same fate sheltering under a tree in Kennington road. A bargeman and his vessel were struck in the Thames; and sheep perished on Ditton Common, under an elm, and in Hyde Park and also in Kensington Gardens. The storms moved away, a short distance, on the Sunday, but proved of considerable force at Chatham and Rochester.[2] The month was excessively hot, and on the 20th, the whole of England had a crashing storm accompanied, in many places, by hail.[3] London had three separate outbursts. The first from 5 a.m. to 7 a.m., the second about 10 a.m., and the third in the afternoon, about 3 p.m., the evening was 'serene and enjoyable'.[4] At Wokingham the storm was most destructive but this was mainly due to hail. In the West, particularly in the neighbourhood of

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1. Ibid.
2. Ibid.
3. Vide Ch. IV.
4. A.R.

Bristol, it raged on two successive days. In Lancashire, at Warrington, several persons and some live-stock were killed. In Yorkshire it was generally bad, but most harmful round Wakefield, Pontefract, Knaresborough, Bramhope and Otley. Once again, on 25 August, London had a fierce tempest, mainly in the districts of Maida Vale and Kilburn. In the latter a house was struck, the lightning went down the chimney, whereupon the room 'appeared to be in a blaze of vivid fire'.[1] The year closed with wind, thunder, lightning and hail on 30 December. In Wiltshire 'it operated like a tropical tornado', and there was great destruction of cottages, haystacks and trees; but all this was due to the force of the wind.

Summer thunderstorms are not always the outcome of long
1860 periods of exceptional heat. The summer of 1860 was described as 'this bitter summer', and well it might be, as at the end of May, the temperature was below freezing point. Gales were very common and Ascot Races, on 5 June, were completely marred by bad weather. There was a severe thunderstorm, at Newmarket, on the 28th, when, during this tornado, there was one blinding flash, which destroyed barns, stacks and a threshing machine. In this 'uncomfortable year', on 19 July, at Leeds, a man was killed by lightning while working with a pick. Another unpleasant storm passed over the Windsor country, on the 28th; a labourer and a team of horses were killed, and 'the wires of the electric telegraph of the railway near Slough' were 'bent and twisted

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1. Ibid.

1861 in an extraordinary manner.'[1] At first the summer of 1861 promised to be no better. But after a very cold start and many gales, the weather, towards the end of May, became 'remarkably fine'.[2] By 14 June, it was very hot, 82° in the shade being registered. On that day, the church of Bulcote, Nottinghamshire was struck by lightning, a man was killed at Highbury, when sheltering under a tree; and at Bere Regis, a man was killed while sitting on his bed, the lightning, possibly, having been attracted by the bedirons.[3] The following July there were storms at Trentham, where a woman was killed; at Staly bridge, where many persons were struck, and at Darlington where a man perished while quietly sitting near his fire-place.[4]

1862 The thunderstorms of 6-7 May, 1862, in Newark, Leeds, and Wakefield were more famous for hail than for lightning;[5] and the same may be said for 2 September at Easterton. During the tempest on 19 October, which was wide-spread, the great feature was the vehemence of the wind but there was destruction by lightning, as well, for a chimney was shattered at Adwalton Moor.[6]

1863 The records 1863-6 are very blank as to contemporary opinion on

1864 these storms. In 1864 there was thunder in different parts on 28-9 March, followed by three inches of snow. On 19 May, with a temperature of over 89° there was 'much thunder'; on 9 June, 23 June, 27-8 July, 9 August and 2-3 September there were storms, but none of such a kind as to cause comment. In fact, it is not

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1. Ibid.
2. Ibid.
3. Ibid.
4. Ibid.
5. Vide Ch. IV.
6. A.R.

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1867 until 19 August, 1867, when there was a great outburst over London, that there is anything to record. This lasted from 9 p.m. to 5 a.m. and succeeded a period of intense heat. The lightning and thunder were almost ceaseless, and the wind and hail most violent. This storm was confined to the south, and was associated with the London area, all Surrey and some parts of Berkshire and Sussex.[1]

1871 Contemporary accounts go to prove that 1871 had something of the thunderous character of 1806, 1851, 1852 and 1859. The month of May 1871, was bright and fine. Rain came about 15 June, and the cricket-match had to be omitted from the Harrow Tercentenary festivities. On the 19th, London was delayed; in Chester three houses were struck, and a man 'had one whisker singed off and his ear blistered by the electric fluid'; at Kingswinford, Staffordshire, a farmer was killed; in Leicester a woman was paralysed; in Kingsworthy, Hampshire, a coachman was killed and the footman, by his side, temporally paralysed; and in Derby, 'a ball of fire surrounded by a blue light' fell upon a house. This wide-spread and disastrous storm was merely one of many during that summer. East Anglia was affected on 4 July, when the Tower of St. Margaret's Church, Kings Lynn was struck together with a house in Exton's Road. This storm was said to be the worst ever known in that neighbourhood. The next day there was an outburst over Cromer which cut in two the South West pinnacle of the church and damaged the clock. For

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1. _Nature_, 1930.

the remainder of the month, and until 19 August, there were occasional heavy rainstorms. On the latter date there were disastrous thunderstorms in the counties of the West, of the Midlands, and as far north as that of Durham. Two persons were killed at Ilchester; cattle were struck at Rimpton; and trees uprooted in the Blackdown Hills. At Abney Grange, near Bakewell, a farmer was killed, his wife injured, while a man-servant was wounded in the cheek. It was thought, at the time, that the lightning had just struck a bed in an upperroom (the bedstead was certainly shattered into fragments), and then passed to the lower room. An equally tragic affair occurred at Hamsterley, co. Durham, where a farmhouse was set on fire, a man was killed, his wife injured and died the next day, and a child was blinded.[1]

1872 Those who experienced it well called the year 1872, 'this extraordinary year', for that was what it was in many ways, and not the least in the amount of thunderstorms recorded. They began early, for on 23-4 January, there was a terrible gale in London with the usual accompaniments. It was not, however, lightning but wind that caused a pinnacle of the central tower of the Houses of Parliament to crash. There were wide-spread storms with vivid lightning on 25-6 April; and, after the first week in May had presented 'an aspect peculiarly ungenial', there was destructive lightning on the 9th, at Rainham, Kent,[2] when the church was set on fire and the lead on the roof melted.[3] The

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1. A.R.
2. *Vide* 20 Oct. 1791.
3. A.R.

county of Lancaster was the next to be visited on the 15th, when the western gable of a farm at Pilsworth, near Bury, was struck. Here, the iron-bedstead, the fire-place and the fender were shattered: the hearth-stone was splintered: the door split: the sewing-machine and chairs smashed, and the carpet torn into shreds. 'At that moment five persons were taking tea in the kitchen about twelve yards away;[1] but not one of them was hurt.[2] A contemporary states that the month of June was 'remarkable for a succession of thunderstorms unparalled in this country for frequency and violence';[3] and, it is asserted, that during the four weeks there were only two cloudless days. On the 5th, there was a raging thunderstorm with a cold North East wind, on the 8th, in the Chilterns, there was a cruel storm with sleet and hail; between the 9th and 28th, there were no fewer 'than nine equatorial thunderstorms.'[4] One of these was on the 16th, when a child was killed at Walsall, two men were struck at Appleby, and there were, on that day, bad storms at Northampton, Leamington and Northwich. The next day there was an 'unprecedently furious' outburst at Macclesfield and another at Darby.[5] On the 24th, and the 26th, after intense heat, several persons were killed in thunderstorms.[6] On the first of these days a line of trees between Wolverhampton and Stafford were

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1. This seems a considerable distance.
2. A.R.
3. Ibid.
4. Ibid.
5. Ibid.
6. H.D.D.

stripped of branches and bark, and some ashs, elms and poplars were either uprooted or shivered by lightning. In the market-place at Penbridge a man was dashed to the ground and the vicarage roof was torn off. At Aughton, near Ormskirk, a child's bed was struck, but the child escaped all serious effects.[1]

On July, 1872, 'The Times' said that the meteorology of the month, consisted 'in one grand prolonged demonstration of the powers of elemental electricity'. The weather was very sultry on the 6th; and, after distant thunder and large drops of rain, London and the southern suburbs experienced a severe storm. In Oxfordshire there was much damage and in Warwickshire it raged with 'unprecedented fury'. At the same time the counties of Devon and Worcester and those of South Wales were also visited. 'At Merthyr Tydvil a large reservoir burst .... and the country adjacent was buried .... beneath the waters'.[2] The weather was again very sultry on the 11th. About 9.30 a.m. part of a storm passed over Sussex; by midnight 'the lightning was perpetual'. From the 13th, to the 20th, there were minor storms in different districts, and from the 20th, to the 24th, great storms 'prevailed in succession [over] nearly the whole of England and portions of the Continent.' These did not cease with the coming of August. On the first two days there were storms and again on the 6th, 7th, 23rd, 25th, and 29th. Of September a contemporary writes

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1. A.R.
2. <u>Ibid.</u>

'Floods and disastrous thunderstorms again characterized this month.'[1] One of these storms, on the 3rd, spread over most of the Kingdom and was particularly severe in Sussex, Cornwall and Shropshire. There was heavy thunder and vivid lightning in Sussex on 26 October; and between 25 and 28 November there were boisterous winds with general electric disturbance. This appalling year was not content to end in peace. One final effort was made at Birmingham, on Friday, 27 December, at 10 a.m. when, after a sharp outburst, the streets were flooded.[2]

1873 If 1873 could not vie with 1872 in quantity of thunderstorms, it did its best to beat it in one storm, in quality. It raged, mainly in the north on 22-3 July.[3] At Preston, it was said to be 'the worst for years'. The heat was tropical and for an hour the lightning was incessant. A man and two horses were killed in Hutton; another man perished at Fulwood. At Bolton, some boys playing cricket were knocked down; one was killed: his neck and cheek were badly burnt, and the skin on his right shoulder was pealed off. In Liverpool, after several days very excessive heat, the lightning was appalling. At Leeds there were several fatal results; at Richmond, where it was 'very violent', paving stones were ploughed up, a man was temporally blinded, and his watch completely smashed. Another storm appeared as far south west as Bath where it was said to have been the most severe since that on the night[4] of the death of George III.[5]

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1. Ibid.
2. Ibid.
3. H.D.D.
4. 29 January 1820.
5. A.R.

1874 This period of the 'seventies was notorious for the terrible effects of lightning,[1] and, of lesser importance, for the disappointment of many who wished to enjoy the newly established Bank Holidays.[2] Some of these had proved fine, but that was not the case on Whit monday, 25 May, 1874, which was spoilt for the holiday makers, who had started out on a fine morning, but who were overtaken by a thunderstorm lasting nearly six hours. It is reported that the streets of London were completely deserted. A man and a child, while sheltering under a tree were killed. The man's hat was cut to pieces, except the brim, which was uninjured. A similar tragic accident happened to a man and boy at East Matlery, near Maidstone. In the neighbourhood of Berkhampstead a farm and some live-stock were destroyed.[3] A month later, during a storm on 24 June, the spire of the church at Salford was greatly damaged and much shortened; 'the lightning, played in most fantastic style round the pinnacle of the edifice'. About the same time the office of the Sheffield Waterworks was struck, but no one was injured.[4] The worst storm of the year, however, was on 11 July, over London and the counties of Surrey and Hertford. It was accompanied by floods and a famous wind. Five men crossing Victoria Park were struck, one was killed, the others were insensible for a time. At Edmonton a woman was killed while chopping wood; and a haymaker, at

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1. A schoolboy was killed at Bentham, Yorks on 31 March, 1874.
2. Owing to Sir John Lulboch, 1871.
3. A.R.
4. Ibid.

Bow, was found dead, with a pitch-fork upon his shoulder. In Beresford Fields, two boys had endeavoured to find shelter by hiding under the hay, but they were both killed by lightning. The Military Prison, at Woolwich, was damaged. In Hertfordshire, the church at Ayot St. Peter was struck at 6.15 and in the course of an hour was completely destroyed.[1] There was another storm at Elstree on the 28th, during which a house was set on fire and some children were killed. About the same time the north of England was visited by violent thunder and lightning.[2]

The evil reputation of its immediate predecessors with regard to thunderstorms, was, to some extent, broken in the year

1875 1875. Floods there were, and many of them, but disasters by lightning were, providentially, far less numerous. Derby Day was passed, on 26 May, 'in the brightest weather';[3] this, however, could not last in the English climate, and, on 9 June, about midday, there was a heavy thunderstorm over Hampshire and Berkshire. Two valuable hunters were killed in a Park, near Andover; a rick was fired, sheep were destroyed and trees splintered, near Hungerford. In the neighbourhood of Poole a farm was burnt, and, three horses were injured, but they ultimately recovered.[4] During a great gale, which raged throughout the Kingdom, on 26 September, the Tower of Merton College Chapel, Oxford, was struck by lightning, but most fortunately

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1. Ibid.
2. Ibid.
3. Ibid.
4. Ibid.

the damage was slight. Another tempest was on 19 October, in Devonshire when flood destruction was considerable at Torquay, Teignmouth and Dawlish.[1]

Except for some violent outburst in Lancashire, after
1876 'tropical heat', at the end of August, 1876, thunderstorms were not an outstanding feature of the year. There were, however,
1877 unpleasant incidents in 1877. There was, on 19 May, a severe storm at Radcliffe, Lancashire, during which the rector and sexton were both struck in All Saints Church, but survived. The lightning appeared to pass from the Church to a neighbouring inn, where a chimney-stack and window were destroyed, and, to her complete amazement and horror, a looking-glass in which the landlady was gazing, was shattered; she, needless to say perhaps, was rendered insensible. The storm extended over the Pennines, and a man working in a field, near Skipton, was killed. Later in the summer, on 4 July, an unfortunate event occurred in London, when, a number of poor persons, after having had due notice to quit, were turned out of Blewitt's Buildings, Fetter Lane. 'The scene in the evening was rendered more distressing by the heavy thunderstorm .... which drenched the people to the skin and saturated their goods'.[2]

1878 The June and August of 1878, tended to restore the 'evil reputation' of the earlier 'seventies. The weather, for the Derby, on 5 June, was no worse than, 'somewhat unfavourable';

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1. Ibid.
2. Ibid.

but Whit monday, the 10th, was most objectionable owing to 'thunderstorms and numerous showers'. A terrific thunderstorm burst over London on the 25th, together with a torrential downpour that flooded railway tunnels and impeded traffic. An hotel at Croydon was struck; houses were damaged in Wolworth Road and Limehouse; a horse was killed at Romford; and after four hours 'of elemental fury', the afternoon and evening became fair. At Morley, on 7 August, a powder-mill was struck with astounding results. The explosion was colossal: many people were injured: but, remarkable to say, no lives were lost. There was a nasty storm on the 13th, when Queen Victoria held a grand naval review at Spithead. Ten days later, on the 23rd, there was a wide spread tempest from West to East. It was very violent at Cardiff: chimneys were thrown down in Abingdon: a man was killed at Tubney, when sheltering under a hay stack, all his clothes were torn off and his forehead was scarred and his chest blackened. This storm in the London district was severe and a house was struck at Walworth. The really alarming storm of the season, extending from Sussex to Derbyshire, was on the 24th. In the City of London, in Alderman's Walk, some workpeople took refuge in a subterranean passage: suddenly, the walls gave way, and they were buried alive. In the neighbourhood of Oxford Street, many houses were struck, and at Newington Causeway, the beer house, 'The True Sun', was burnt, all the goods destroyed but no lives were lost. At Peckenham a girl was blinded, and a house set on fire, at Battersea a man 'was so startled by a flash that he cut the arteries of his wrist with a chisel which

he had in his hand'. A hop-picker was killed at Southfleet, while at Silverhill, near Hastings, a barn was burnt and £300 worth of corn was destroyed. At Rainham an outhouse was struck, and a man sheltering in it died shortly afterwards; his coat was much burnt and 'the iron of a spade in the outhouse was found twisted'.[1] Such disasters as these made 1878, notorious, and as a thunder year worthy to be classed with 1806.

The continuous wet and discomfort, apart from the misery
1879 and poverty of 1879, are proverbial. The remembrances, however, of a peculiarly unpleasant year are not marked by any particularly tragic accidents due to lightning. There was a fierce storm on 3 August. In the London district it raged for seven miles in length and two in breadth, at Cambridge there were 120 flashes in a minute.[2] It was also experienced with severity in Yorkshire, Buckinghamshire, Norfolk, and as far west as the counties of Gloucester and Monmouth.[3] A fortnight later, 16-17 August, there were storms as far apart as Kew in the East, and Wales in the West.[4] On 30 December there was a bad storm over Sussex, Surrey and Middlesex, when the Chapel of St. John, Hurstpierpoint, was struck, and the stone-cross on the eastern gable was hurled to the ground. It is not, however, for these electrical disturbances that the year 1879 will ever be memorable. Nor are the next three famous for thunderstorms, though there was a
1882 severe one at the beginning of July, 1882, when a man was killed at Long Preston.[5]

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1. Ibid.
2. Nature, 1930.
3. A.R.
4. H.D.D.
5. C.N.W.Y.

1883 The June of 1883, witnessed a very wide spread storm on the 9th. In the north, at Lumley, near Durham the Old Hall was struck; in the south, at Christ Church, Hampshire, the lightning damaged the Post Office. In the West Llandinal's Church, Ross, was struck, and the very tall spire of Painswick Church was greatly damaged, but with no loss of life. Of the thunderstorms
1884 of 1884 there is little or nothing to record though there were
1885 some very hot days in August of 1885, only three tempests were of a conspicuous character. On 7 August, St. Michael's Church, Highgate was struck; on the 12th, the storm was severe in the north; and there was one of great violence in Sussex, on 17 September, when an aerolite fell into a field, near St. Leonards, but no trace of its could be found the next day.[1] The thunder-
1886 storms of 1886 were, again, remarkable on three occasions. On 4 September, there were outbursts in various parts of the Kingdom, that at Swansea being accompanied by a water-spout. On 19 October, the Aldershot district was visited by a storm that destroyed telegraph wires and poles; and at Guildford, and as far north as Aylesbury, houses were struck. On 7 December, a hurricane with thunder, lightning, hail and snow passed over England; St. Andrew's Church, Lambeth, was struck and part of a large stone cross was thrown to the ground.[2]

1887 The generally accepted view of the first Jubilee year, 1887, is that it was remarkably fine. Certainly there were periods such as the greater parts of February, June, July and August,

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1. A.R.
2. Ibid.

when there were long extended droughts; but the year was not without disagreeable events. In the London district there was much thunder on 17 August, which started at 5.30 p.m. and lasted for four hours. During its prolonged continuance Christ Church, Endell Street, was struck twice, and St. John's Church, Waltham Green was also damaged. The storm was by no means confined to the metropolitan area, and several people were killed in different parts. Another storm followed on the 29th, which ranged from Lancashire to Kent, during which, mainly in the latter county, 'great damage was done to the fruit crops,'[1] but this was due more to the roughness of the wind than to lightning. The 'electric fluid' was, however, directly responsible for the death of a man and of three horses, while ploughing, near Thirsk,
1888 on 17 April, 1888;[2] and for several deaths in the north of England during 18-19 May.[3] The next two summers suffered the usual storms, there being nothing extraordinary, either in a
1889 heavy outburst over Lancashire and Cheshire on 2 June, 1889;
1890 or in the thunder and torrents of rain on 26 May, 1890. A rather worse storm did mark the summer of that year, on 17 July, when both the Hall of Lincoln's Inn and the Houses of Parliament sustained damage from lightning;[4] otherwise the years were normal.

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1. Ibid.
2. Ibid.
3. Nature, 1930.
4. A.R.

1891 Among the innumerable tempests that are recorded for 1891,
there are a few notable thunderstorms. There was one of some
violence, on 25 June, mainly confined to Lancashire and Wales,
during which hay-ricks were fired, and no fewer than twenty
persons were killed. It is probable that the heavy rains, in
the Darwen valley, on 18 August, were accompanied by thunder and
lightning; certainly, a day later, in the London area their
was much lightning which caused considerable damage. The
1893 celebrated drought of 1893, ended in the north of England, with
very heavy thunderstorms, on 8 July; and, in London, there was
an exceptional storm, with damage to property, on 9 August. A
similar outburst occurred in Lancashire on the 10th. South
Lincolnshire was visited on 27 September; and the Church of
1894 Pinchbeck, near Spalding, was set on fire. A year later, on
24 September, there was a storm at Maldon, Essex,[1] sufficiently
strenuous to be thought worthy of record.

It is not customary to associate thunderstorms with the
1895 ever-famous frost year of 1895; and yet there were the annual
summer outbursts, the most violent being over London, on 22
August, when several persons were killed. After a long drought
1896 of six weeks in the next year, the weather broke over the whole
kingdom on 5 May, not without damage. On 7 July, the Ashmolean
Museum, Oxford, was struck and the roof fired, but, fortunately,
no injury was done to the valuable Collection. A second period
of drought was followed by a break on 25 July.[2] The most curious

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1. Ibid.
2. Ibid.

storm of the year, however, was at Brixham, Devon, on 18 December, when a globe of light was seen travelling from west to east, tearing up the ground in its progress; it burst through a door and a wall, and in its passage killed one man and injured another.[1]

1897 A storm long remembered in England was that of 24 June, 1897. The Diamond Jubilee year was celebrated for some hot days; and that morning was very hot. This resulted, in the afternoon, in a series of electric disturbances. The chief damage was caused by hail, as in Ongar and Chelmsford,[2] but in Colchester, London and throughout Middlesex, the wind, combined with the hail, played havoc with the Jubilee decorations,[3] and in a brief space destroyed hours of patriotic labour. At Crouch End, on 21 July, there was another bad storm with hail and flood; and renewed activities occurred in many parts on 5 August; but these were not altogether unexpected, as they had been preceded by a period of very intense heat.[4] The high temperature of the middle of the

1898 following August was even more extraordinary, and round about the 16th, there were numerous cases of sunstroke and of heat apoplexy. Some relief was obtained after a severe thunderstorm on the 18th, which though much desired by the town-dweller, did considerable damage to the crops, mainly in the west of England and in South Wales. Nor was the farmer any better pleased when another poor

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1. *Nature*, 1930.
2. A.R.
3. *Nature*, 1930.
4. A.R.

1899 harvest followed the storm of 6 September, 1899, famous for its torrential rain. One of the most colossal storms of modern
1900 times, in the north of England was on 12 July, 1900, between 2 p.m. and 3 p.m. The West Riding suffered much; in Bradford[1] the storm seemed, to those who sat through it, unprecedented; and so, indeed, it proved, a few miles away at Ilkley. Here again, however, the horror of the storm was due to a cloud-burst on the moor,[2] more than to any damage by electrical discharge.

The twentieth century, so far as it has run its course, has not any records of storms to surpass the worst of previous days, though there have been some that might well be described
1901 as 'terrifying'. On 10 August, 1901, a storm raged from Derbyshire, through the northern counties to Southern Scotland.[3]
1903 In London, on 30 May, 1903 four persons were killed by lightning.[4]
1905 The west of England was visited on 15 August, 1905, when buildings were fired, cattle killed, but no human lives were lost.[5] Wales,
1906 the Midlands and London had a crashing storm on 23-4 June, 1906; and the South East of England, particularly Guildford, suffered from violent thunder, lightning and flood on 2 August. The county of Durham had terrible experiences from lightning, hail
1907 and waterspouts on 18 June, 1907, during which sheep and cattle were killed and walls and roads swept away.[6] On the 29th, of this month, and on 22 July, London had serious visitations, though

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1. R.W.J.
2. *Vide* Ch. V.
3. *Nature*, 1930.
4. A.R.
5. *Nature*, 1930.
6. *Ibid.*

in the latter case the storm was far more intense in South Wales.[1]
1908 The year 1908 witnessed the usual June storms; on the 3rd, and 4th, London, and many other parts, had torrential rain with brilliant lightning.[2] There was nothing unusual in the summer
1909 storms of 1909. Thunder came fairly early in the next year,
1910 and on the day after Edward VII's funeral, 21 May, there were thunderstorms in many parts.[3] Terrific storms raged in both England and Wales on 7-9 June,[4] and particularly on the latter date in the south between 1 and 3 p.m.

The classic race of the Derby has been run in all sorts of weather including a snowstorm, but the afternoon of Derby day,
1911 31 May, 1911, will, from a meterological point of view, ever be historic for terrific thunder and lightning. The weather had been very humid and extremely close all day; towards the end of the afternoon three distinct storms were apparent. The rain became torrential, if, indeed, such a word is sufficiently emphatic to describe the fall of 2.44 inches in fifty minutes. The storm was most disastrous: seventeen persons and four horses were killed, and three haystacks were burnt.[5] Fine weather supervened, but at the end of June, there was a destuctive storm in London, when the lightning caused the fusing of electric wires, and the Royal Exchange caught fire; churches and several other buildings were damaged to a lesser degree, and no fewer than

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1. *Ibid.*
2. A.R.
3. *Ibid.*
4. *Nature*, 1930.
5. *Ibid.*

seven persons were killed in the London district.[1] After such an experience the outbreak, on 28 July, must have been viewed with apprehension. It proved to be short in duration; but violent in character.[2] Another throughout the British Isles, on the next day, was equally, if not more, alarming, especially as it appeared to cause remarkable tidal oscillations in the English Channel.[3] The summer of 1911, was, however, on the whole, very fine though it was followed by an exceptionally wet autumn.[4]

If 1911 was celebrated for some peculiar incidents, the
1912 next year was not entirely without them. As early as 11 March, the districts of East Hampshire and West Sussex were visited by thunder storms, accompanied by a startling phenomenon - a 'Black Rain'. 'The sky was described as of inky blackness; in other places the cloud was greenish yellow and dense fog was experienced. The rain which fell from this cloud was black .... and smelt slightly of tar. There seems little doubt that the blackness was actually due to London fog which drifted southwards before a light wind until it reached the thunderstorm area'.[5]
1913 The great 'black cloud' of 13 October, 1913, did not have the same effect; it brought with it, however, a tornado in South Wales. It was first noticed after 4 p.m. in Devonshire, where there was rain and lightning, it passed over the Bristol Channel

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1. A.R.
2. Ibid.
3. Nature, 1930.
4. A.R.
5. Nature, 1930.

moving with great rapidity. As it went northward trees and buildings were destroyed; it reached Shropshire about 8.30 p.m. Taken as a whole, the story of its course is the nearest approach to an American tornado, reproduced in this country, ever recorded.[1]

It is not necessary to go into details concerning great storms that have occurred in recent decades. A mere record of the more intense will suffice to remind readers of what they themselves may have witnessed. Two months before the calami-
1914 tous outbreak of the Great War, on 14 June, 1914, a summer storm of ordinary character, but of considerable violence, burst over London, when seven persons sheltering under trees on Wandsworth Common were killed. Four days later, in London and South Essex, two persons were killed. On 1 July, local thunderstorms in London and the Midlands did considerable damage. Again, in the
1915 next year the storms recurred, and on 6 May, in London, between 8.30 p.m. and 10 p.m., there was a storm with heavy rainfall.[2] The outstanding storm, was probably, what was called 'magnetic' and 'of great intensity', and 'of long duration', which began
1921 on 13 May, 1921, and continued for a few days.[3] Two years later
1923 there was a storm on 12 May, but it was a mere nothing when compared with its immediate predecessor.[4] On the other hand, it is possible that the disturbance of 9-10 July approached

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1. Ibid.
2. A.R.
3. Nature, 1930.
4. Ibid.

closely in its violence to that of 1921. The storm burst over London at midnight. 'The outbreak appeared to travel from the direction of Kingston and Richmond .... and broke, with all its fury, at a time when, luckily, most of the theatre-goers had been able to reach their houses in safety. The lightning was vivid to a degree. For over two hours the sky was illuminated by brilliant continuous flashes, that gave the buildings an errie appearance, and at least once, what seemed to be a gigantic fire-ball broke into a million fragments of dazzling fiery sparks. Equally dramatic were the heavy crashes of thunder which grew in mighty crescendo, intense and majestic, and then into a diminuendo, as the storm swept over the city. The storm followed a day of almost tropical heat'.[1] During this very appalling visitation of the forces of nature, a terrible tragedy occurred. 'About 2 a.m., when the storm was at its height, a porter .... of the Savoy Hotel, heard above the thunder three pistol shots .... he found Prince Fahrey [an Egyptian] .... on the ground .... His wife [a Parisian] had thrown down a Browning automatic pistol, and three empty cartridges lay at her feet'.[2] In the trial, the great advocate, Marshall Hall said, 'Imagine [the storm,] its effect on a woman of nervous temperament, who had been living such a life as she had lived for the past six months'.[3] And so, even thunderstorms that take life, may save life.

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1. D.T. 10.7.23.
2. E.M.H.L.
3. Ibid.

1924 The June of 1924 brought the ordinary storms of the season, and in many places, as at Maidenhead, there were severe floods.[1] London was visited by bad storms on 22, 29 July, and 22 August, when, in the last case, the electric disturbances were carried as far west as Bristol. It was a miserable year without sunshine,
1925 and the next year had its drawbacks. After a very hot and sultry day, on 22 July,[2] most of England experienced a typical summer storm, though the hail[3] was not 'typical', in London.[4]
1927 So bad were the thunderstorms on 11 July, 1927, that the railway traffic was disorganized.[5] There were a few really bad storms
1929 in the south of England in 1929, but, undoubtedly, the most severe was about 20 July; this, however, was far surpassed in fury on 29-30 August, when at midnight a storm brought much needed relief to London after a very sudden heatwave.[6]

1931 The year, 1931, offered every variation of climate and weather: earthquakes, hailstorms, and abnormal rain; in addition, a 'series of thunderstorms' occurred on 6 July over a large area in northern England and spread south. 'The Times' says "An exceptionally violent storm of thunder and rain struck the city of Sheffield shortly before noon and caused serious flooding. At the height of the storm Sheffield Cathedral tower was struck by lightning and the lead roofing for a distance of some 14 ft. was ripped off. At Heeley under the L.M.S. railway bridge there

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1. A.R.
2. *Ibid.*
3. *Vide* Ch. IV.
4. *Nature*, 1930.
5. A.R.
6. *Ibid.*

was $2\frac{1}{2}$ ft. of water, and a Sheffield to Dronfield motor omnibus which rushed into the water in an attempt to get through was stranded with a full load of passengers.

What is described as a thunderbolt fell during the storm at Tingley, near Leeds, yesterday afternoon. A hole was formed in an ash tip 100 ft. high near Tingley Station and the foreman narrowly missed being buried alive in the hot ashes, tons of which were thrown on to the roadway.

During a severe thunderstorm over the Manchester district the electric train service between Manchester and Bury was suspended for nearly two hours owing to a turbine at the Clifton Junction power house being struck by lightning. Steam trains were substituted.

The yachts racing at the Royal Clyde Yacht Club's regatta at Hunter's Quay yesterday finished in a thunderstorm, after being becalmed and drifting for hours."[1] Another outburst of storms .... swept over Southern England during the month of August .... At Rothamsted there was a series of thunderstorms from the 3rd, to the 5th, but little rainfall. There was another storm on the 8th ..... At Boston, Lincolnshire, over $6\frac{1}{2}$ in. of rain fell in 15 hours, and many other places had storms almost as violent.'[2]

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1. The Times, 7.7.31.

2. Ibid. 2.10.31.

And with such a year of curious contrasts and strange climatic pranks of nature, the story of England's thunderstorms closes. But it must ever be remembered that lightning can prove far from a jovial jest, and that the words of the Psalmist are still true,

'The Lord also thundered out of heaven
......................................
He sent out his arrows and scattered them:
He cast forth lightnings and destroyed them'.